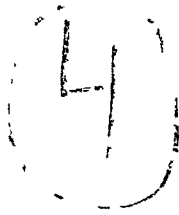


ISSN 0970-1575

# PERSPECTIVES IN EDUCATION

VOLUME 22 NUMBER 1  
JANUARY 2006



a journal of the  
**Society For Educational  
Research and Development**

CUR-H06731 - 4 - KP2619

## PERSPECTIVES IN EDUCATION

### Founder Editor

M B BUCH

### Editor-In-Chief

P N DAVE

### Editorial and Publication Management

PILOO BUCH

G R SUDAME

### Editorial Board

LOUIS M SMITH

Emeritus Professor  
Washington University  
St Louis, MO, U S A

MARK BRAY

The University of Hong Kong  
Hong Kong, China

CHINEDUM MORDI

Institute of Education  
Delta State University, Abraka,  
Nigeria

MARMAR MUKHOPADHYAY

National Institute of Educational  
Planning and Administration New  
Delhi

R GOVINDA

National Institute of Educational  
Planning and Administration  
New Delhi

S B MENON

Department of Education  
University of Delhi  
New Delhi

K GOPAL

Retd Professor of Sociology  
C C S University, Meerut  
Bharuch

D KUMARAN

Department of Education  
University of Madras  
Chennai

*Perspectives in Education* is a journal of the Society for Educational Research and Development published quarterly every January, April, July and October, in one volume of four issues per year. It aims at providing an international forum for discussions on problems of education. The basic policy of the Journal is to encourage an interdisciplinary approach to understanding educational phenomena. It is also the policy of the Journal to give priority to dissemination of ideas, innovative practices and research findings concerning education in the Third World.

**Subscription** Rs 170 00 per volume in India, US \$ 40 00 per volume in other countries, Rs 45 00 per issue in India, US \$ 10 00 per issue in other countries

**Editorial Correspondence**, including books for review, should be addressed to the Editor-in-Chief, *Perspectives in Education*, 76, Kshitij, Pritam Society No 1, Bharuch-392001, Gujarat, India. Phone/Fax (91-02642) 229536, Fax operative only IST 9 00 A M to 1 00 P M & 5 00 P M to 9 00 P M. International users should drop '0' from ISD code 02642. E-mail: [prafulchandra@sancharnet.in](mailto:prafulchandra@sancharnet.in), [pnjpdave@yahoo.com](mailto:pnjpdave@yahoo.com)

**Business Correspondence**, including orders and remittances relating to subscriptions, advertisement, back numbers and offprints, should be sent to the Secretary, Society for Educational Research and Development, 46 Harinagar Society, P O Race Course, Vadodara-390007, India.

The points of view, facts and opinions expressed in the *Perspectives in Education* are those of the authors and do not necessarily coincide with the positions of the Society for Educational Research and Development.

©2006, Society for Educational Research and Development

KP 2619



# PERSPECTIVES IN EDUCATION

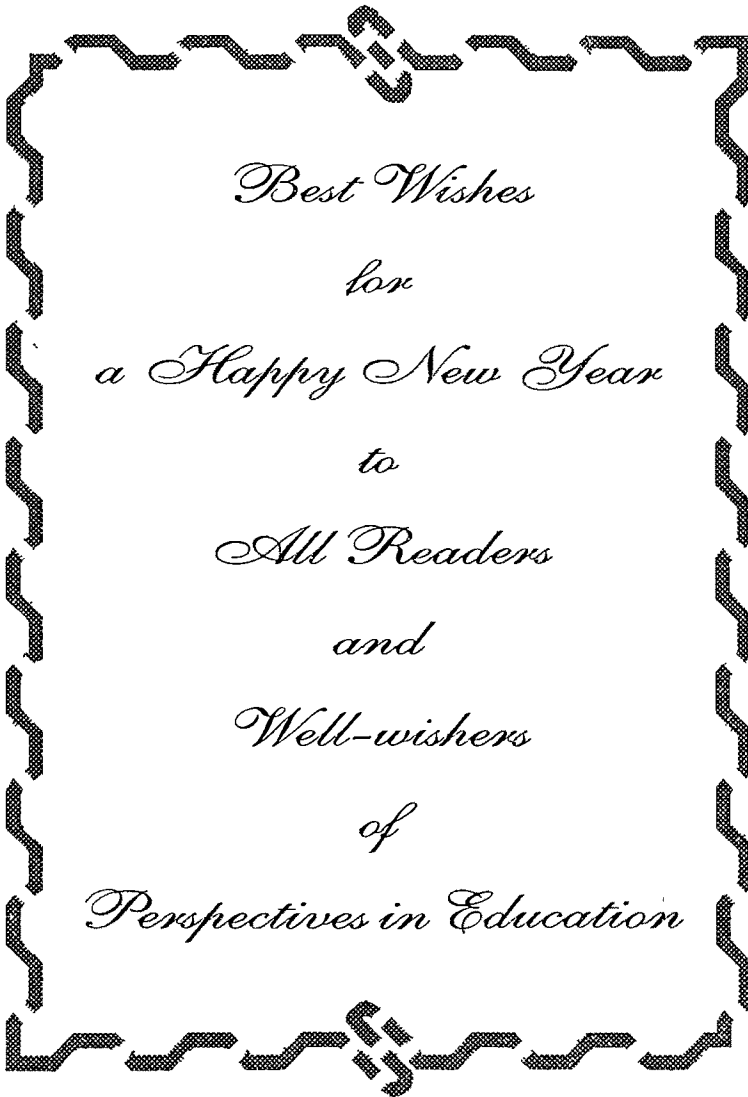
Volume 22 Number 1  
January 2006

4

CONTENTS		1
EDITORIAL	'Quality'—The Most Abused Word in Education	3
ISSUES AND TRENDS		
<i>Louis M Smith</i>	What Are You Going to Be—Just Another Ph D ? Organizational Influences on a Professional Life	5
<i>L Abeke Adesanya</i>	Non-formal Education, Women and Empowerment A Conceptual Framework	14
<i>Taghi Jabbarifar</i>	Higher Education Administration and Globalization in the 21st Century in India	23
RESEARCH		
<i>Preeti Verma</i>	Cognitive Process Differences among Learning Disabled and Non-learning Disabled Children	29
<i>Jayanta Mete</i> <i>Parama Samaddar</i>	Development and Implementation of Environmental Education Curriculum for Secondary Schools The Indian Context	41
COMMUNICATION		
<i>Richard Irikefe</i> <i>Okorodudu</i>	Technology Education in Nigeria Problems and Prospects in the New Millennium	49
BOOK REVIEW		
<i>Sunirmal Roy</i>	Decentralization in Education X-Rayed	59
NOTES ON CONTRIBUTORS		63
CORRIGENDUM		63
PUBLICATIONS RECEIVED		22

7

\* SEASON'S GREETINGS \*



*Best Wishes*  
*for*  
*a Happy New Year*  
*to*  
*All Readers*  
*and*  
*Well-wishers*  
*of*  
*Perspectives in Education*

## *'Quality'—The Most Abused Word in Education*

It is rather fashionable to use (abuse?) word 'quality' to the extent that it has become a lingo. How many times have we heard from platforms that 'what matters is the quality of life and the ultimate purpose is to improve it', may it be health, education, work environs, etc. No customer can miss the message behind any of the TV/newspaper ads sponsored with the help of celebrities, how an 'improved' version of a product will help him/her look better or 'relieve' pain faster than the other products and, of course, better than their very own previous one. Assuming that it *may* do so, it has invariably a price tag that will, for sure, lighten our pockets noticeably. Perhaps for that very reason psychologists euphemistically labeled ad as 'hidden persuader'. Every professional uses it, most of the times, without realising that the client who is listening to it is absolutely clueless about what is implied in it.

Let us take the area of health first. When a doctor tells a cardiac patient that a particular device, if implanted, will change his/her quality of life. His/her hopes sky rocket. However, when s/he hears the cost of the device, the doctor's fees and follow-up expenditure, s/he gasps for breath; for it is simply not within his/her reach. That the quality add-on does not come free is hardly debatable. The fact of matter is it has a very high price tag of both—content and service. How many people can afford this quality of life tag? Besides, the probabilities of failures are built-in which remain camouflaged. On the other side, it clearly suggests that money and quality are intimately related, hence the mad rush to get a 'quality' job that ensures good money and, if the luck smiles or the cosmic stars are in the right position during that period, it also offers an opportunity to become rich. It may be an exaggeration to state that the quality of life of many a person remains unchanged. They just clutch on to life as they did in the past. For the media, now-a-days, it is more important to report how many persons have become millionaires without giving even a hint how many young-age people, after having acquired degrees, that too in technical fields, are jobless or how long they have been waiting for the opportunity to get a suitable job or, at that, any job?

And thus is the acute problem we are facing in education today. It is a stark reality that jobs are just not available. Sardonicly put, the job cake in India is too small to cater to the needs of the vast one billion plus population. In spite of the

overwhelming evidence of connecting education and quality reported by international banks and donors, the poorest of the poor is not willing to bite the bait. It is for this precise reason that we witness fewer and fewer parents below the poverty line are willing to send their children to schools, despite appreciable efforts. The high enrolment is meaningless if the enrolled ones do not even complete the primary cycle. And the damn statistics here just do not budge an iota from its static index. If it moves, it is in the negative direction.

Why? Let us examine the scenario at the higher education level. Recently, it was reported that about 175,000 students took CAT in India where only about 1300 seats were available in our high-profile IIMs. The situation is no different even for obtaining a seat in the primary teacher training institutes, leave alone IITs and other similar courses offered in universities. The big question looming is, what would the remaining presumably bright students do? Needless to state, their dream of improving their quality of life has soured. In the previous PIE issues, concrete evidence was reported that there is a great void exists between availability of ITes enabled man power and jobs. Thus, basically the question that needs to be answered is, how to convince the poorest of the poor that sending their children to schools will improve their quality of life. They ask, and legitimately so, how do we survive without the wages the whole family gets in return of their hard labour? If one labour-hand is taken out, the family has to put up with less of the basic necessities. It matters little to them that the employer, irrespective of the jobs they are engaged in, does not make fair payment to women, girls and children. They want enough money to buy the daily necessities, or, put simply, just to survive. When the daily survival is at the stake, it is not only ridiculous but also foolhardy cruel to wave a quality carrot to these people. There is no denial of the fact that these hard-core destitute people are never going to send their children to school until they attain a reasonable economic level. Time and again, during our talks with not only these people but also relatively better-placed farmers and skilled workers, we face the query, which had no convincing answer. For illustration, agriculturists everywhere queried "Bhaisab, this kid of mine takes care of our young buffalos. In about five years, each buffalo would bring at least Rs 20,000 +. We do not have any other means to replace him/her. If I send him/her to school, how do we take care of our family? We would not be able to even eat well." Why do children from BIMARU state flock cities and make streets their second home? For work, of course, where they are exploited. All the same, should we not try to understand their plight? They do so not only to get two square meals (lucky if they do) but also send some money back home so that their folks get something to eat?

One wonders what does word 'quality' mean to these destitute? Further, a question arises in mind as to, how many generations they will have to wait to afford the price-tag for getting 'quality education' and when the mother India will be able to 'universalise higher education for all' (UEFA). It does not require the genius of the Nobel Prize winner to make a correct guess at it. However, a million-dollar question is, will those who have climbed the ladder of affluence admit it? Will they care to redeem the situation?

## ***What Are You Going to Be—Just Another Ph.D.? Organizational Influences on a Professional Life***

**LOUIS M. SMITH**

*The essay depicts an autobiographical professional journey of an eminent American educationist, encompassing a span of 56 years. Needless to state, it will serve as a useful guide to both the organisations and the budding professionals in education anywhere*

### **Prolog**

Our meeting this weekend is to celebrate the contributions of John Elliott and Jean Ruddick as part of the history of the Centre for Applied Research in Education (CARE) at the University of East Anglia. As one of the foreign visitors I find it difficult to separate the contributions of others, e.g. Lawrence Stenhouse and Barry MacDonald among a large number of younger teachers, scholars, and teacher researchers who have been a part of CARE as I have known it. Consequently I will tend to focus on the implications for CARE as an organization. Further I believe that the organizations one encounters in one's professional career, especially early on, make a major difference in the development of young teacher practitioners, scholars, and researchers. To explore this issue I will raise a series of autobiographical experiences to help focus the questions and the discussions. It's a bit of a reach, but I think and hope it will be fruitful.

### **Introduction**

At a party the night I was awarded my MA degree in 1953, a young faculty member commented to an even younger friend who has just received his doctorate, "What are you going to be—just another Ph.D.?" I thought then, that that was a devastating one liner for someone finally finishing his hard won program. And somehow the question has stayed with me—a full fifty years. In a sense my comments today are an attempt to partially answer the question. I believe that organizational influences contribute mightily to the answer. These influences I would hypothesize are some of the reasons that help determine whether one becomes something other, more than, just another Ph.D.

The conceptual thrust here accents that nature of 'a professional life' and the role of decisions, chance events, 'strands,' and 'organizations' within that professional life. Lurking in the background within this discussion are the ideas of Henry Murray (1938, 1954), Daniel Levinson (1978), and their colleagues, among others.

### **Methodology and Procedures**

In a brief essay it hardly seems necessary to have a methodology and procedures section, yet a little early clarity will provide some limits and boundaries to the believability of my remarks. In simple terms the essay falls within the genre of an autobiographical case study. And this occasions difficulties, for example Gusdorf (1980) sees autobiography as 'a sort of posthumous propaganda for posterity' and Pritchett (1977) puts the novel and autobiography together 'as examples of two different ways of telling agreeable lies. In keeping with these comments, I would raise the issue of whether I, as the autobiographical subject, am different from – and perhaps more than – just another Ph D.' By indicating that among other items, the subject of the autobiography has received a year-long Fulbright research fellowship to New Zealand and his book *The complexities of an urban classroom* (1968), was selected as one of the one hundred American education books of the century (Kridel, 2001). So dear listener and reader, 'beware' for the data are mostly recollections. A number of publications date some events and the forwards, introductions, and footnotes add specificity and clarification. Other published literature generalizes some of the ideas.

### **The Story**

Some scholars, for instance Stake (1967), argue that among other things case studies should tell a story. For our purposes here I want to relate the series of organizations that I belonged to post Ph D. over my four decades of active teaching, inquiring and writing. And I will indicate some data and thoughts of their importance.

### ***Department of Education/the GIE***

Just as I was finishing my Ph D. degree in psychology at the University of Minnesota, I applied for, was interviewed, and offered a position at Washington University in St. Louis. That was probably the most significant decision of my career. After the interview with the newly arrived Chair of the Department of Education, Robert Schaefer, a Columbia Ph D. who had been an Assistant Dean at Harvard, my wife Marilyn asked me how the interview had gone. I said 'I don't know.' We sat in the cafeteria and bullshitted for a couple of hours. It was like being back at Oberlin College. Later I was to find out that Schaefer assumed technical competence from reading the graduate course record and letters and that he was looking for 'quality of mind,' something beyond technical ability. Oberlin College had provided me with an intellectually excellent liberal arts background and plenty of able student friends who spent hours reading, going to stimulating classes, and talking, talking and talking.

The Washington University experience lasted 40 years—I was 25 when I began and 65 when I retired. I have been a Professor Emeritus for nine years. Schaefer built a faculty of young, able, idealistic, achievement oriented scholars. We became what he later called 'scholar teachers' in a 'school as center of inquiry' (Schaefer, 1967).

Academic freedom, high expectations, and congenial collegiality were given. In a way it was like an adolescent peer group—and our social lives intertwined with



out professional lives. We taught, inquired, and wrote. And iterated through that sequence continuously. The Graduate Institute of Education was remarkable organization in which to begin a professional life!

Among the major events and individuals in the GIE two might be cited here. Sandy Charters, a senior colleague by a half dozen year, introduced me to two major books that had not been a part of my graduate experience: George Homans' *The human group* (1950) and Robert Merton's *Social theory and social structure* (1953). Larry Iannaccone brought his training with the anthropologist Sol Kimball and the educational administrator Dan Griffiths to Washington University. Older colleagues were teaching younger colleagues in conversations, with suggestions, questions and friendly critiques. Iannaccone argued the importance of participant observation as a research tactic and strategy useful in studying complex naturalistic settings—ones like the public schools. In the summer of 1962 I had the freedom and support to begin teaching a new graduate course called 'The classroom as a social system' with the Homans book as one of the texts. William Geoffrey (George Fairgrievies) was an educational administration student in that class as well as a student in a 'tests and measurements in education' course I also taught that summer. He invited me down to see his class in the inner city and our relationship turned collegial. Shortly, with a few bumps along the way, we were beginning our study and book, *The complexities of an urban classroom* (1968). We blended the conception of theory that Charters exemplified and the methods stressed by Iannaccone. The academic freedom of the GIE and Washington University permitted and supported, a once upon a time test and measurement psychologist to turn into a teacher and researcher of sociological theory and anthropological methods. *Complexities* was to be a case study of an educational setting to complement the half dozen case studies Homans used in *The human group*. The magnitude of this influence and support from colleagues in an organization remains unbelievable to me. But it happened.

To cite another incident, later in the Spring of 1963, Jud Shaplin, the second director of the GIE who had only recently arrived after Scheafer left to become Dean of Teachers College, Columbia University in New York talked with a former colleague from Harvard, Fred Strodbeck. Fred had agreed to be an instructor in a summer institute at Stanford. He was a little reluctant for his background was more general social psychology rather than education. Jud indicated that he had a young faculty member on his staff who had just spent a semester living in an elementary classroom in a slum neighborhood and who might make a good assistant instructor. Fred came to St. Louis, we met, we got along, and I spent six weeks with him in Lee Cronbach's summer institute. Among others in that institute, but working in another of the four sections was one Bob Stake. He has his own stories to tell of the summer, but my point here is that the GIE of Washington University provided me with another influential and supportive opportunity. The list continues on and on. Is CARE similar to the GIE?

One final illustration of the importance of Washington University, as an institution and the GIE as a subpart, comes to mind. Burce Biddle of the University of Missouri and I had come to know each other from symposia at APA and AERA.

Ray Adams his colleague at Missouri was part of this Ray and his wife had decided to return to New Zealand Again through a long series of events, like a shaggy dog story, Ray had joined the education faculty at Massey University The University had a research Fulbright opening and Ray, in a more complicated set of letters and discussion, asked me to apply for he wanted a qualitative classroom researcher to join his more quantitative group I was lucky enough to obtain the fellowship and spent a major year in New Zealand Among other events, I discovered that what I thought were my problems in educational psychology were 'really' problems in educational philosophy Much of my year was studying with, that is, going to tea time sessions, with colleagues who had studied with R S Peters and his group in London That year rattled my cognitive structure beyond recognition It took me a decade to straighten that out Being at a setting like the GIE and Washington University offered me a position for such an opportunity Being in an organization like the GIE at the beginning of my career helped make me into something other than 'just another Ph D

### ***Office of Education, NIE and other Federal Agencies***

Paralleling my professional life and career was the rise in funding of the Office of Education, the National Institute of Education, the Elementary and Secondary Education Act and the funding of the Educational Labs and Centers, and other governmental agencies Money was available for new organizations, training programs, and individual research applications My GIE colleagues and I benefited from all of these

The Small Contracts Research program in the early 1960s funded several of my projects With grants that had limits of \$5000 and later \$7500 I began two major projects that eventually became the books *Complexities* (Smith and Geoffrey, 1968) and *Anatomy of educational innovation* (Smith and Keith, 1971) Shortly thereafter, with funding from CEMREL, the Central Midwestern Regional Educational Laboratory, we did an evaluation project that became '*Education, Technology, and the Rural Highlands*', (Smith and Pohland, 1974) The latter was published in volume 7 of Bob Stake's AERA curriculum evaluation series With those studies, qualitative, ethnographic, and participant observation methods invaded the domains of classroom interaction, school innovation and reform, and curriculum evaluation I found that I was 'running the methodology' Trying it out in unusual but important settings—the Washington School in a slum neighborhood, the innovative Kensington School in suburbia, and the rural highlands in Eastern Kentucky It was quite a ride!

I worked part time at CEMREL for a decade, 1966 to 1976 Usually the arrangements were half salary for me, and resources for a half-time assistant and some travel, secretarial, and other expenses That was a major organizational innovative relationship The organization profited and so did I Mostly I did qualitative evaluation studies of innovative curriculum projects It was heady time CEMREL was a regional lab begun by Jud Shaplin, Wade Robinson who had recently joined the GIE as associate director, and Sister Jacquelin President of Webster University The Federal Government funded the lab Many of us worked hard in

establishing the Lab. It became another important organization in my life. Opportunities and support once again!

Finally, in regard to research support, NIE funded our massive Kensington revisited project, a mid to long-term 15-year follow up of the innovative Kensington School. Unwittingly, at least initially, we were responding to C. Wright Mills' call for studies that blended biography, *Educational innovators then and now* (Smith, et al., 1986), social structure, *The fate of an innovative school* (Smith, et al., 1987), and history, *Innovation and change in school history, politics and agency* (Smith, et al., 1988). I thought it was a major tour de force, critics and colleagues thought less of it. For me it also brought another large domain shift-moves into history and biography. I was beginning my journey into doing 'a real biography,' Nora Barlow and the Darwin Legacy (In process). Biographical method became another form of qualitative inquiry. But my point here remains-organizational events made a huge difference in my professional life.

### **CARE, CARN and the Alternative curriculum Evaluation Group (ACEG)**

And then came UK into my life. Out of the blue in September of 1972 I received an invitation to join a group of scholars interested in what came to be called 'illuminative evaluation.' The Nuffield Foundation supported the effort chaired by MacDonald & Parlett. Soon I came to know Stenhouse, Rudduck & Elliott, among a large number of other very able younger colleagues. My wife and I became entranced with foreign travel. And my philosophical, theoretical, and ethical approach to educational inquiry, evaluation, school innovation and reform, and teaching were once again jolted beyond recognition. CARE became the international counterpart to the GIE at Washington University. Today, that is, this current week, plus some six evaluation conferences over that last three decades, a summer six weeks in residence at Norwich, multiple symposia at AERA, more than a half dozen CARN meetings scattered over England, and a semester sabbatical from Washington University and a fellowship at the Cambridge Institute of Education plus privileges at the Cambridge University Library-all barely suggest the impact of these organizations. All this exemplifies the magnitude of the opportunities and influence. The English connections became intertwined with another project, my never-ending biography of Nora Barlow, one of Charles Darwin's granddaughters. Peter Holly & Bridget Somekh, both then at the Cambridge Institute and coordinators of CARN, became important figures in that work. Three summers, a semester's sabbatical from Washington University, and innumerable other days and weeks in residence in Cambridge became a major part of my life. All that followed on the Alternative Curriculum Evaluation Conference invitation that September of 1972.

It is not just me that CARN has influenced. Over a decade ago a number of local metropolitan St. Louis teachers and teacher educators have traveled to one of the CARN meetings. At about that time we began a local ARC group, the Action Research Collaborative that has gone through a number of changes. Currently, the most active part is a group of teacher educators who meet 10-12 noon on the second Friday of each month. We have little structure and little administrative

overhead. We rotate through volunteer presenters. AND we have raging discussions full of sharp critique, good humor, and questions about reformation of teaching practice and suggestions as to how the presenter should rewrite his/her humble beginnings toward a trilogy of books. The group varies in size from a half dozen to a dozen and a half. Something like a half dozen or eight different home institutions are represented. The discussions are the kind that should be happening in each institution—primary, secondary, or university—but don't.

Thanks John, Jean, Clem Bridget, *et al*

As I am in the process of writing this essay, Richard Bates, a friend from Australia is coming to St. Louis to participate in a conference. My wife and I are having a party for him with friends and colleagues from the metro area. I announced his coming at the ARC meeting a few days ago and I also sent out a note on the ARC list serve. One member of the group who hasn't attended recently sent me an e-mail message back, literally this morning, May 17. It captures well the quality of feeling of the ARC group for many of us.

*Thanks so much for including me in the invitation to your party, Lou, I won't be able to attend as I'll be on the plane to Chicago that evening for a meeting the next day. I miss the ARC group. Now that I'm fulltime, they have me chained to my desk 24/7—or traveling. You and the group provided me with such intellectual boosts of energy—and just plain fun—that I can't get anywhere else. Maybe someday I'll be allowed out of my cave again.*

*Take care,*

These short paragraphs of activities in America, England, New Zealand, and Australia barely hint at the complexities of the events just named. A mix of organizations, people, opportunities came together in ways I still find unbelievable. In the middle of all this I taught, inquired, wrote and published. It was a very satisfying and productive professional life style.

### **Broadening the Interpretation**

Although most of the people here would not be critical, case studies – and autobiographical ones at that – might find their critics elsewhere. Consequentially I would like to broaden the comments and interpretations to brief references to several other organizational groups that extend the argument.

George Homans, a descendant of the Adams family dating from the American Revolution and from the 2<sup>nd</sup> and 6<sup>th</sup> presidents of the United States, and a patrician scholar from Harvard University was a member of the Society of Fellows of Harvard. This was a distinguished group of men, and later of women as well, who were recruited nationally and offered well-funded fellowships for post-graduate study. Their ranks included such distinguished scholars as B. F. Skinner the premier behaviorist psychologist, Arthur Schlesinger, the noted historian, Conrad Arensberg later a professor of anthropology at Columbia University, Thomas Kuhn the historian of science and author of scientific revolutions, and William Foote Whyte the sociologist of 'street corner society' fame. The list continues. Homans

wrote a book about the society (Homans & Bailey, 1948) and made reference to its importance to him over the five years he was a member. Much of his work influenced our study, *Complexities*, but it's his account of the society as a major reference group that influenced his career mightily that is important in this discussion.

Also at Harvard during the 1930s was Henry Murray, a physician turned psychologist who headed the Psychological Clinic and wrote *Explorations in personality* (1938) with the help of a number of colleagues from the Clinic. Later, with the distinguished anthropologist Clyde Kluckhohn, they wrote and edited *Personality in nature, society, and culture* (1948, 1953). Many of these individuals and their intellectual work from the Harvard Clinic became noteworthy in their own right. Erik Erikson, Robert White, Christiana Morgan, Donald MacKinnon, Saul Rosenzweig, and Nevitt Sanford were among the two dozen. The ideas initiated by these scholars have under-girded much of my work in life history and biography, including *Nora Barlow and the Darwin legacy*.

Meanwhile Robert Merton, a graduate of the Department of Sociology at Harvard, in the 1930s began to develop with Paul Lazarsfeld, the Bureau of Applied Social Research at Columbia University. Merton's *Social theory and social structure* (1949, 1957) defined one position on functional theory in sociology. Among other achievements, a series of qualitative case studies of organizations appeared. I have called it 'the Merton, Blau, Gouldner, Lipset & Selznick tradition of functional sociology.' Each individual produced a series of provocative, powerful organizational studies. I know little of the nature of the organization at Columbia University, but my colleague Pat Keith and I found the idea and inquiry methods they were accenting very helpful in thinking our way through what became our study of an innovative school, *Anatomy of educational innovation: an organizational analysis of an elementary school* (1971). Reviewing these variants of functional sociology I believe would be illuminating at this point in time.

Kurt Lewin came to America from Germany during the rise of Hitler and Nazism. Two major centers of activity are associated with his name. The University of Kansas was the first of these. Roger Barker, Paul Gump and others continued this work for many years at the Child Welfare Research Station. Later Lewin founded the Center for Group Dynamics at MIT. It moved to the University of Michigan after his early and unexpected death. Cartwright, Lippitt, Festinger, Schacter & Back are some of the individuals who continued the pursuit of these ideas. One need barely mention concepts such as leadership styles-democratic, autocratic, and laissez-faire, and methodological innovations, such as experimental designs, quantified observation, and hypothesis testing of social events and propositions. These would be enough to guarantee his place in social science. But group pressure, cohesion, and norms were soon to follow, as well as t-groups and sensitivity training. Some of these stories are told in Marrow (1969). Lewin's work guided much of the thinking I have underway in my teaching of 'the classroom as a social system' and the substance of my inquiry into group aspects of classrooms. Cartwright & Zander's *Group dynamics: research and theory* (1953) was a textbook used in that course. But even here I don't really know much of the connection.

between Lewin and the Tavistock Institute in London and the creation of the journal *Human Relations* in England. Much more to learn! But it is another instance of influential groups changing social theory and practice.

Finally, a quick mention of 'the Chicago school' and their long-term foray into the sociology of institutions and subcultures seems appropriate. The case studies, mostly using qualitative methods and document analysis, were highly provocative. As an undergraduate I learned of Zorbaugh's *The gold coast* (1929), Shaw's *The jack roller* (1939), and Thrasher's *The gang* (1929). I did not appreciate then their broader significance. As a psychology graduate student, I heard nothing of this strand of research. Only later did they come back into my intellectual world as a young faculty member at Washington University. Partly this reawakening was through the work and acquaintance with Howard Becker & Dan Lortie. In his *The origins of scientific sociology*, (1962) presents a brief but powerful analytic view of the Chicago School as well as other important sociological centers.

### **Some Conjectures as Tentative Conclusions**

What have I learned and what do I hope to teach from this brief set of stories and interpretations?

First and foremost, is the hypothesis that the organizations one joins, participates in, and contributes to are highly significant in a professional life. In the autobiographical case study I presented, the initial invitations and decisions are important in this. Talented and idealistic colleagues make differences. Later, opportunities and supportiveness are very significant. And then there is luck! Invitations, opportunities, decisions, idealism, talented colleagues, supportiveness seem an odd collection of concepts. Are they useful in thinking about CARE?

Second, I have too little detail about the other organizations that I have cited and have known mostly through the published literature. And I do not know of other organizations in UK that would offer significant similarities and differences to extend the stories and the theory. With historical case studies of the magnitude of Martin Jay's *The dialectical imagination* (1973) of the Frankfurt School and Janik and Toulmin's *Wittenstein's Vienna* (1973) in mind, they suggest the further work in case studies that are possible.

Third, and most significant for this conference I would argue for attempts to clarify the history, nature, dimensions, personalities, and culture of CARE. What is it that made it such an important center of educational activity over the last several decades? I would broaden this inquiry to CARN and the Alternative Curriculum Evaluation Group and their histories. The interconnections should be strikingly provocative. Then there are the wandering foreign scholars who have passed through or stayed a while. What can such a set of group recollections and interpretations tell us of future possible attempts that some of us might want to try? All this discussion and inquiry, I believe, would be among the finest tributes we could offer John and Jean at this retirement celebration.

[Note: Presented at the retirement celebration for John Elliot and Jean Rudduck, Center for Applied Research in Education, University of East Anglia, Norwich, UK, July 1-2, 2004]

## References

- Cartwright, d & Zander, A (1953) *Group dynamics research and theory* New York Row, Peterson & Co
- Gusdorf G (1980) Conditions and limits of autobiography In Olney, J *Autobiography Essay theoretical and critical* (pp 28-48) Princeton Princeton University Press
- Homans, G C (1950) *The human group* New York Harcourt
- Homans, G C (1984) *Coming to my senses the autobiography of a sociologist* New Brunswick Transaction Press
- Janik, A & Toulmin, S (1973) *Wittgenstein's Vienna* New York Simon & Schuster
- Jay, M (1973) *The dialectical imagination* Boston Little, Brown & Co
- Kulckhohn, C & Murray, H A (1954) *Personality in nature, society, and culture* New York Knopf
- Kridel, C (Editor and Arranger) (2000) *Books of the century catalog* Columbia, SC Museum of Education, University of South Carolina
- Levinson, D , et al (1978) *The seasons of a man's life* New York Knopf
- Madge, J (1962) *The origins of scientific sociology* New York Free Press
- Marrow A (1969) *The practical theorist the life and work of Kurt Lewin* New York Basic Books
- Merton, Robert K (1957) *Social theory and social structure* Glencoe, Ill The Free Press
- Mills, C W (1959) *The sociological imagination* London Oxford University Press
- Murray, H A , et al (1938) *Explorations in personality* New York Oxford University Press
- Pritchett, V S (1977) *On autobiography* London English Association
- Schaefer, R (1967) *The school as a center of inquiry* New York Harper & Row
- Shaw, C (1930) *The jackroller a delinquent boy's own story* Chicago University of Chicago Press
- Smith, L M (1993) Biographical method In Denzin, N & Lincoln, Y (Eds ) *Handbook of qualitative research* Thousand Oaks Sage Publications
- Smith, L M (In process) *Nora Barlow and the Darwin legacy*
- Smith, L M & Geoffrey, W (1968) *The complexities of an urban classroom* New York Rinehart
- Smith, L M & Keith, P (1971) *Anatomy of educational innovation* New York John Wiley
- Smith, L M , et al (1986) *Educational innovators then and now* London Falmer Press
- Smith, L M , et al (1987) *The fate of an innovative school* London Falmer Press
- Smith, L M , et al (1988) *Innovation and change in schooling history, politics, and agency* London Flamer Press
- Stake, R (1967) 'Toward a technology for the evaluation of educational programs ' In Tyler, R , et al *Perspectives of curriculum evaluation* Chicago Rand McNally
- Thrasher, F (1972) *The gang* Chicago University of Chicago Press
- Zorbaugh, H (1929) *The gold coast and the slum* Chicago University of Chicago Press

Manuscript received on March 15, 2005

## ***Non-formal Education, Women and Empowerment: A Conceptual Framework***

**L. ABEKE ADESANYA**

*The fact that women all over the world are desirous of power is obvious. It is assumed empowerment will satisfy this desire. But the word empowerment does not lend itself to an easy definition. Because of this, it is loosely used to the extent that its meaning becomes blurred and exploitative. An attempt is thus made in this paper to have a proper meaning of empowerment. This exercise is with a view to developing a framework that would lead to the attainment of power.*

### **Introduction**

The quest for 'empowerment' in women's struggle for societal recognition, ability to participate in politics, eradication of poverty and illiteracy is loud and universal. Women all over the world view the process of being empowered as a panacea to all their problems of oppression and marginalization. Thus, women's empowerment as a development goal is based on a dual argument: first, that gender equality is a crucial aspect of human welfare and intrinsically worth pursuing - a means to other ends such as the promotion of growth, reduction of poverty and promotion of better governance, and secondly, that empowerment is a liberating process. For these reasons empowerment has become a dominant aim of women's struggle.

However because of its natural and comforting illusions, aims such as this carry a persuasive force of positive connotations, which encourages varieties of hyperbolically optimistic assumptions about its effects. In order to avoid these assumptions becoming unchallenged fashionable ideas in the educational arena, particularly in the realm of women education, the need for a careful scrutiny arises. We therefore intend to argue in the course of this paper that the word empowerment is a deceptive and temporal release of authority. That rather than for women advocating empowerment, they should be struggling to have all it takes to produce power. Power is derived as a result of wit. Hence, the saying that knowledge is power. Never the less wit is about thinking and it is about knowledge. For women to become powerful, therefore, they should be able to think in a manner that is critical and knowledgeable.

The paper will be in four parts. The first will be the concept of empowerment. This exercise will be carried out using the tool of philosophical analysis. Thereafter the paper will trace the history of the empowerment struggle of women, with a view



to preparing a working knowledge of women struggle Furthermore, examine the non-formal education strategy as an approach and lastly adapt a conceptual framework that has worked

### **Empowerment Conceptualized**

The concept of empowerment of an individual or a social group presupposes that a state of social oppression exists which has dis-empowered those in the group, by denying them opportunities or resources and by subjecting them to an ideology and a set of social practices which has defined them as inferior humans, thus lowering their self-esteem As a general goal, empowerment has been described as a political and a material process, which increases individual and group power, self-reliance and strength (Nigel & Werner, 2001)

Empowerment can be viewed from either the perspective of an individual or a group Paula, (1999) viewing empowerment from the perspective of the individual, submits that it is a process that individuals engage in when they obtain both objective and subjective resources of power which allow them to use power to achieve outcomes in the actor's self interest On this definition, it would seem that economic, legal and personal changes would be sufficient for individuals to become empowered, and such a process does not require the political organization of collectives in which such individuals are located Empowerment, from the point of view of a group, emphasizes the increased material and personal power that comes about when groups of people organize themselves to challenge the status quo through group organization Empowerment in this sense is seen as a goal of radical social movement (Bystydzienski)'s definition is all encompassing

*Empowerment is taken to mean a process by which oppressed persons gain some control over their lives by taking part with others in development of activities and structures that allow people increased involvement in matters, which affect them directly In its course people become enable to govern them effectively This process involves the use of power, but not 'power over' others or power as dominance as is traditionally the case, rather, power is seen as 'power to' or power as competence which is generated and shared by the disenfranchised as they begin to shape the content and structure of their daily existence and so participate in a movement for social change (quoted in Ferguson, culled, 2005).*

Empowerment is the acquisition of more control over decision, which affect one's life It refers to a combination of increased self-confidence, increased awareness of strategy and an ability and capacity to act Empowerment occurs only through action Individual or psychological power does not exist apart from action which is initiated to exercise more control or more influence in one's life It is the combination of thinking, learning and acting which results in a sense of being empowered It is the concrete confrontation or interaction with forces, tendencies, organizations or persons apart from the person concerned which produces reaction that may or may not result in having a sense of more control or power

In the words of Crowther (1997 376), "empower (often passive) means to

give somebody the power or authority to act" The Latin prefix "en" of "em" meaning to give underscores the dependency relationship between the person being empowered and the person doing the empowering Empowerment is dependent upon the goodwill or self-interest of the person with the power who, for whatever reason, decides not just that power will be transferred, but how much power and what sort of power The logic of empowerment implies passivity on the part of the person being empowered A person who has the wherewithal to empower can, at will, dis-empower depending on the circumstances at which the power was released in the first instance Take for instance, a woman who has just given her husband a delicious meal may be empowered through the advancement of money to buy more food for home consumption Her ability to stuff her kitchen with all sorts of food items is as a result of her delicious food But if for any reason this woman can no longer please the husband, she may be dis-empowered by being deprived of money so there will be little or no food She would have no choice than to abide by the dictates of the husband On the other hand, the woman who has power to buy food has more stable and independent life than the one empowered to buy food To acquire power therefore is better than to be empowered Thus O'Hagan (1991 18) argues that power is not a thing but a relationship and that power must involve at least two people In other words an individual or group has power only to the extent that another individual or group is deprived of power

Our analysis of the concept of empowerment has revealed that to be empowered can be a dangerous notion Fielding (1995 130), in his critique of the process of empowerment, expressed some scepticism as to the extent to which those doing the empowering retain control, often in cover rather than opening ways The word empowerment according to him "carries with it a promise of autonomy and the capacity to shape work in ways which not only reflect but develop skills, expertise and aspirations of the person empowered" However, the reality of this position is relatively small and the boundaries fixed The truism of this opinion is best observed in Africa and particularly Nigeria where men predominantly control religion, culture, politics, trade and a host of vocations All efforts and advocacy by women to have a portion in these exclusive domains of the men have proved not too successful All the same, one is not suggesting that women should hang their gloves in the battle because Fielding says "empowerment is not just a set of processes, it is a struggle in difficult and often hostile context" (1995 132)

### **Empowerment in Historical Perspective**

The struggles women experience today may take different forms, but they are, of course, not new Women have been subordinate to men and oppressed by them in many different sorts of societies Neither is the oppression of women a temporary phenomenon The rule of men certainly existed long before capitalism developed, and has shown little evidence of withering away with the introduction of communism and socialism

The needs of women in the Third World countries have been emphasised in many different contexts and within different policies, projects and programmes--

particularly since the 1975 declaration of the UN Decade for Women. Before the Decade for Women, development planning concerning women focussed predominantly on addressing the needs surrounding the reproductive role of women through a welfare approach that concentrated on food delivery, family planning and health care. Its purpose was to bring women into the development as better mothers. The approach viewed women as passive recipients of development (Moser, 1993: 55).

Dissatisfaction with the welfare approach in the early 1970s resulted in a number of alternative approaches—the equity, anti-poverty and efficiency. The fact that these approaches share many common traits, and were articulated during the same decade, means that there has been a tendency to categorize them together as ‘the women in development’ (WID) approach. But there are significant differences between them (Moser, 1993: 62).

The work of Esther Boserup (1970) on the role of women in the process of economic and social development in the Third World has tremendous influence on the WID approach. Despite the change of WID approach in focus from equity to efficiency, the assumption that everyone would benefit and women would no longer be marginalized if they were brought into the development process as active participants, which would enhance productivity, and efficiency remained forlorn. Thus, women—a previously neglected productive resource—had to be brought into the development process through access to employment, credit, training and the labour market (Moser, 1993: 3, 63).

But during the early 1990’s discourses of empowerment in development research and practices reflected a shift from the WID approach to a “Gender and Development” (GAD) perspective. Whereas the aim of WID initiative was to integrate women into a development practice that had excluded them, the goal of GAD was through the development interventions to transform the unequal gender relations and to empower women (Feldman, 1998: 27). The focus on “gender” rather than women reflected a change from viewing women in isolation, as the WID approach had done, to a look on gender relations—that is the unequal relationships between men and women where women remain subordinated to men. The term “gender” perceives men and women as socially constructed categories, whereas the term ‘women’ refer to women in terms of that “sex”—which is their biological difference from men (Moser, 1993: 3).

Whereas the WID approach did not challenge the existing social structures or the causes of women’s subordination, the GAD perspective, on the other hand, questioned the institutional basis of gender inequality (Feldman, 1998: 27). The GAD empowerment approach recognizes the inequalities between men and women and the origins of women’s subordination in the family and society. It also underlines that women’s experience of oppression is different in so far as gender is linked with other inequalities such as race, class, nationality and position in the international economic order. Therefore most women pursue different strategies at different levels to be able to challenge oppressive structures and conditions (Moser, 1993: 74).

**Non-formal Education and Women's Empowerment**

The idea of non-formal education is not a new one the world over. Educational programmes existed in the now-developed countries long before the formal educational system, as we know it today, was evolved. And in today's developing societies it is only comparatively recently that colonial authorities have introduced those formal structures that are now widely replacing and downgrading earlier, indigenous forms of instruction and socialisation. Indeed, in all societies, it is still true that children and adults receive a large part of their education from the environment, their family and society, drawing directly, existentially, on experience (UNESCO, 1972: 5), and that such learning experiences are supplemented by a variety of more structured out-of-school experiences, which are designed to meet a whole range of personal and societal educational needs. Adult education programmes, agricultural extension, community development and many others all fall into this category.

Non-formal education is one of a number of terms that have increasingly entered in educational discussion in recent years. Others include lifelong education, recurrent education, *education permanente*, informal education and out-of-school education. Their use has rarely been rigorous and has often been confusing, but a common thread underlies their increasing popularity. This is to say that they are all, in some sense, set in antithesis to the currently dominant apprenticeship or front-end model of education that concentrates on the pre-career education and training of young people, mainly through the formal educational system. Thus, these terms place emphasis on the redistribution of education over the individual's life-span, and also on the importance of considering a wide range of organisational provision, not just formal schooling. Non-formal education clearly concerns the second of these dimensions.

There is no doubt that a great variety of non-formal education programmes that exist in all societies make analysis extremely difficult. Thus, Harbison (1973) suggests three broad categories that could help to describe non-formal education. These are (i) activities oriented primarily to the development of the skill and knowledge of members of the labour force who are already employed, (ii) activities designed primarily to prepare persons, mainly youth, for entry into employment, and (iii) activities designed to develop skill, knowledge and understanding that transcend the work world. In like manner, Callaway (1972) proposed a two-way classification based on the age of the clientele and the purposes of the programme.

But the major pillars of non-formal education fit into the empowerment needs of women. These are

*learning to live together in the diversified world, learning to know new and emerging knowledge, learning to do more complicated technological tasks and learning to be more responsible, independent and creative'*  
(Literacy Link, 2001)

***Non-formal Educational Approaches to Empowerment*****Skills and Knowledge Training**

Approaches that aim at empowering women and promoting individual and social

change must make gender a central issue if discriminatory and unequal gender relations are to be changed. If education and training are to empower women, they must entail the development of instrumental and analytical skills and the acquisition of knowledge in order to promote critical awareness and reflection of their life situation. Thus, consciousness of the conditions and causes of women's subordination can arise out of their acquired knowledge and skills (Mushi, 2002, 498-500). The skills and the knowledge that should be central in the programmes must have emancipatory potential for empowerment to happen.

### Participation and Organization

The active participation of the women learners is a crucial element in educational and training projects in order to raise consciousness and increase reflection on life experiences. This enables the women to identify their actual needs, which facilitates the development of strategies to address those needs. Thus, as mentioned earlier, significant changes for women only happen if they are actively involved in the change processes and if their own needs and priorities are addressed. The participation of women in the training processes is an important element in the generation of collective action and organisation. Collective participation and organization are necessary tools if a training programme is to enable women to challenge and change unequal social structures. Educational and training programmes are thereby able to enhance self-esteem and generate both individual and collective empowerment (Mushi, 2002, 498-500, 507).

### Popular Education

Feminist popular education is one approach that connects training and challenge of structures of inequality. Popular education is based on three main elements: participation, consciousness-raising and collective social action. The approach recognizes the existence of both practical and strategic interest and put particularly emphasis on emancipation. The pedagogy of popular education uses a learning methodology that is participatory and egalitarian. It strives to eliminate the authoritarian role of the teacher. The participation of learners is crucial and it is up to them to determine what issues to discuss. Thus their experiences and knowledge are prioritised and different kinds of needs come into view, such as both practical and strategic needs (Monkman, 1998: 504). The goal is to motivate women to achieve a social and critical awareness of their society. It is an alternative and competitive approach to the top-down hierarchical structure that is prevalent in formal education (Fink, 1992, 172 & 173).

### Critical Thinking as Learning Activity

Sumner submits that "critical thinking is the examination and test of propositions of any kind which are offered for acceptance in order to find out whether they correspond to reality or not" (1906: 632). In the same vein, Ennis (1962) opines that "critical thinking, as the term is generally used these days, roughly means reasonable and reflective thinking focused on deciding what to do, believe or do" (1962). Critical thinking has been further defined as "the intellectually disciplined process of actively and skillfully conceptualising, applying, analysing,

synthesising, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or communication, as a guide to belief and action” (Scriven & Paul, 2000)

### **Towards an Empowerment Framework**

If equality between women and men is intrinsic to the definition of women’s development, this brings with it the necessary corollary of women’s empowerment as the means to overcome the obstacles to women’s equality in patriarchal societies. This can be understood in terms of a concern with five “levels of equality”, and that empowerment is a necessary part of the development process at each level, for women to advance towards equal status.

#### ***Level One: Welfare***

This is the level of the material welfare of females, relative to males, in such areas as nutritional status, food supply and income. Here we describe gender gaps in terms of women as mere statistics rather than individuals capable of changing their lives—more as passive recipients of welfare benefits. Women’s empowerment cannot take place purely at this welfare level; action to improve welfare will entail increased access to resources.

#### ***Level Two: Access***

The gender gap at the welfare level arises directly from inequality of access to resources. Women’s lower levels of productivity arise from their restricted access to the resources for development and production available in the society – land, credit, labour and services. Relative to men, women have less access to education and wage employment, and less access to the services and skills training which make productive employment possible. Overcoming gender gaps will mean that women have equality of access, according to the principle of equality of opportunity.

#### ***Level Three: Conscientisation***

Here the gender gap is not empirical, but is a belief-gap: the belief that women’s lower socio-economic position, and the traditional gender division of labour, is part of the natural order, or is “God given”. This level of equality involves the individual’s conceptualisation of the development process in terms of structural inequality: the realization that women’s problems do not derive so much from their own personal inadequacies, but rather women are subjugated by a social system of institutionalised discrimination against women and girls. Above all, it means women’s rejection of the “given” patriarchal perception of women, and their ‘proper’ role and place.

#### ***Level Four: Mobilisation***

Mobilisation is the fourth and crucial stage of empowerment, which enables the collective analysis of gender issues, and the collective commitment to action. Mobilisation is also largely concerned with achieving participation in decision-making. In a development project, it would mean women participating in the process of needs assessment, problem identification, project planning, management,

implementation and evaluation

### ***Level Five: Control***

At the level of control, the gender gap is manifested as the unequal power relations between women and men. For instance, within the household, a husband's control over his wife's labour, and of the resulting cash income, means that a wife's increased productivity may not result in increased welfare for herself and her children. Women's increased participation at the decision-making level will lead to increased development and empowerment of women when this participation is used to achieve increased control over the factors of production, to ensure women's equal access to resources and the distribution of benefits. It is equality of control that enables women to gain improved access to resources, and therefore enables improved welfare for themselves and their children (Nigel & Werner, 2001: 27)

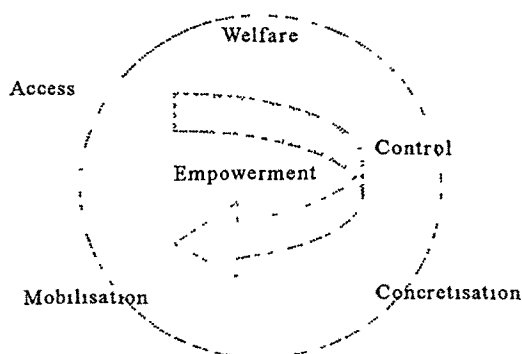
### **The Empowerment Cycle**

The above explanation of the five levels illustrates how the discussion of inequality at one level naturally leads into a discussion of inequality at the other levels. Rather than viewing empowerment as a linear process, we should rather see the levels as part of an inter-connected cycle as shown in the diagram below. This Empowerment Cycle is intended to illustrate that all aspects of empowerment should lead to improved welfare, and to show the continuous and dynamic nature of the development process. The process of empowerment is self-propelling and self-reinforcing – success at one level provides a better basis for success at other levels.

### ***Empowerment Is a Synergic Process***

The 'levels' of the Framework in the figure below are therefore not intended to be interpreted as 'steps in a linear sequence', but rather as inter-related elements in a cycle or spiral of self-reinforcing development process.

Empowerment is located in the process of development, or the movement round the cycle, rather than in the achievement of any particular outcomes. It is the process that is empowering, rather than the achievement of material benefits.



Source: Nigel and Werner (2001: 33)

KP 2619

## Conclusion

One of the first elements in the empowerment process is raising the awareness of women as regards their own subordinate position. Empowering women is seen as a way to change gender roles and to enhance their capabilities of creating change and making decisions about crucial issues in their own lives. This strategy is anchored in many non-formal education and training programmes for women.

## References

- Crowther, J. (Ed) (1997) *Oxford advanced learner's dictionary of current English*. England: Oxford University Press.
- Feldman, S. (1998) Conceptualizing change and equality in the "Third World" contexts. In: Stromquist, Nelly, P. (Ed.) *Third world women—an encyclopaedia of contemporary issues*. New York & London: Garland Publishing, Inc.
- Fielding, M. (1995) Empowerment: emancipation or enervation. *Philosophy of Education Society of Great Britain*, March 31-April 2, 129-136.
- Freire, P. (1972) *Pedagogy of the oppressed*. London: Penguin Books.
- Freire, P. (1985) *The politics of education*. London: Macmillan.
- Harbison, F.H. (1973) Human resources and non-formal education. In: Brembeck, C.S. & Thompson, T.J. (1973) *New strategies for educational development: a cross-cultural search for non-formal alternative*. Lexington: Books.
- Moser, C.O.N. (1993) *Gender planning and development—theory, practice and training*. London & New York: Routledge.
- Nigel, H. & Werner, M. (2001) Gender and HIV/AIDS: a report of the international workshop on the development of empowering educational HIV/AIDS prevention strategies and gender sensitive materials (?).
- O'Hagan, B. (1991) Empowerment: a fallacy? *Community Education (?)*. Oxford: University Press.
- Sumner, W.G. (1906) *What is critical thinking?* [www.criticalthinking.org/University/definCT.htm](http://www.criticalthinking.org/University/definCT.htm)
- UNESCO (1972) *Learning to be: the world of education today and tomorrow*. Paris: UNESCO and Harrap.

Manuscript received on April 21, 2005

## Publications Received

- Centre for Learning Resources *Annual report 2004-2005*. Pune: CLR.
- *Edutracks*, Vol. 5, No. 1. Neelkamal Publications, Hyderabad.
- *Edutracks*, Vol. 5, No. 2. Neelkamal Publications, Hyderabad.
- *Edutracks*, Vol. 5, No. 3. Neelkamal Publications, Hyderabad.
- *Indian Educational Review*, Vol. 41, No. 1, 2005, NCERT, New Delhi.
- *Indian Educational Review*, Vol. 41, No. 2, 2005, NCERT, New Delhi.
- *NIER Newsletter*, Vol. 37, No. 2, National Institute for Educational Research, Tokyo, Japan.
- *Ram-Eesh Journal of Education*, Vol. II, No. 1, 2005, Ram-Eesh Institute of Education, Greater Noida, UP.



## ***Higher Education Administration and Globalization in the 21st Century in India***

**TAGHIJABBARIFAR**

*This article deals with the changing scenario and management responsibilities of higher education in the 21<sup>st</sup> century in India. Of course, for those looking for challenges of management in higher education as a field, the future is not going to be a disappointment. Maybe by the end of the first decade of the 21<sup>st</sup> century management of higher education worldwide would have changed beyond recognition. Every administrator is required to behave like a shrewd politician.*

*The world has been changing very fast. The pace of liberalization, privatization and globalization (LPG) is remarkable and has tremendously influenced various dimensions of management of higher education. The long-term consideration in the educational sector requires a clear statement of the direction in which a society wishes to move. Thus it is necessary to visualize the type of society India would like to have in the 21<sup>st</sup> century and beyond.*

### **Introduction to Higher Education**

Higher education is at crossroads and is passing through exciting times. Increasing competition, widespread educational activities, global character and enhancement of technology are some of the significant factors creating a great impact on higher education. While it is in a phase of turbulent years of transition, it still provides highly talented human resources for economic development, brain power enhancement and research in several areas. Academic institutions all over the world are contributing significantly to societal development and refinement of perception. These institutions are working as centers of learning, training and manpower development. Their role has been a vital source of industrial development and creation of wealth. Planners, managers, legal authorities, scientists and researchers receive guidance from these institutions. The strategic planning and management of these institutions have to cope with challenges, such as the urge for excellence, up-gradation of skills, accessibility vis-a-vis mass education, IT revolution, resource crunch, teachers' empowerment, student-support services, government control, liaison with the university, trade unionism and so on. The administrators of collegiate institutions have to take these challenges into account while planning their strategies.

### **Role of College Administration**

A college is the fundamental element of higher education in India and is

supposed to produce quality graduates, whereas the University is primarily committed to research and generation of super advanced new knowledge. Most scholars agree that knowledge is power. The younger generation of the 21<sup>st</sup> century believes that applied knowledge is power. Whatever we think about knowledge and new knowledge we must appreciate their point of view. Otherwise we will stay so far behind that we may never be able to catch up with them. In the light of the above challenges, it is very pertinent to run any academic institution in such a manner that the objectives of creating good citizens and undertaking educational activities relevant to the times are fulfilled. The college administration in India, therefore, is required to be dynamic in its approach. It has to perform both the roles of academic development on the one hand and smooth functioning on the other. Good administration and sound academic performance are mutually dependent and inseparable. Therefore, the colleges have to manage the affairs efficiently and meaningfully to facilitate the smooth functioning and to inspire teachers to improve the academic performance. Many collegiate institutions have imbalance in terms of their administration and academic pursuits. Some organizations have good administrative capacity but the academic pursuits are put in the background. There is no scarcity of resources but less emphasis is laid on academics. In some cases, infrastructure is attractive but the results are poor. It is always necessary to establish balance with optimum administration and consistency in academic pursuits.

### **Linkage of Colleges with the University**

The college administration in Indian Higher Education in the 21<sup>st</sup> century has links with universities and the government. Majority of colleges are affiliated to universities for academic guidance and certification of their standards. The state universities and statutes of the respective universities govern colleges. The service conditions of college teachers are governed by the University rules and regulations. The state government controls the financial aspect of college management. Pay scales, grant-in-aid, recruitment policy and other such components constitute the regulatory measures of the Government of India. Therefore, for smooth functioning of the college, the liaison with the university and the government is very important. The colleges run by private management have to develop relations with the authorities of these institutions. The management representatives on the local managing committees and governing bodies of the institutions have a vital role to play in the management of the colleges. As a result, the principal of a college has to manage the activities in the framework of rules and regulations of the university, government and management. The University Grants Commission (UGC) is also an important regulatory body for colleges, particularly, for developmental assistance and funding for several schemes.

The National Assessment and Accreditation Council (NAAC) has also, in recent times, created a quality consciousness among teachers and administrators of colleges. Thus, the administration of colleges has many factors to be considered in a balanced manner with an optimum consistency. It has the ultimate aim of facilitating education for students' development and quality maintenance.

### **Participation in College Administration**

College administration has three pillars in the Indian context—teachers, administrative staff and management of institutions. Higher Education has to enhance human capability

through empowerment that knowledge gives. Here, not only do the teachers have to share the initiative but also the functioning of management has to be participative. The participative approach will make teachers responsive and accountable to the students. It will also ensure good performance through in-built appraisal methods. This will give them an opportunity to participate in the process of management and enjoy the autonomy of thought and action in the process of teaching and evaluation of their students. College management must be able to operate the mechanisms of having regular meetings with lecturers, office staff and student representatives. This would motivate everyone to strive for better performance. As advised by Freud (1991), 'In major decisions you must consult not only your head but also your heart.'

### **Factors of Good College Management**

Good college management and administration depend on a number of factors. They are interrelated and it becomes a primary duty of the principal of a college to correlate them and establish a working balance. The following are some of them.

#### ***Management Support***

A continuous and healthy relation with management representatives is a key factor in day-to-day functioning of the college. It is the duty of the management to protect the institutions from the external encroachments and interference of unnecessary elements. At the same time it should have the first priority to select an appropriate person to lead the institution and then give him or her full freedom and flexibility to work. Some institutions follow this religiously and enjoy the results of good performance. The responsibility and answerability should be in-built in the system of college management.

#### ***Urge for Excellence***

Colleges are a focal point of national and international integration and have to be viewed and as such. Upgrading of skills of the students is the need of the hour. This is critical for development and helps in meeting the requirements of working patterns. The role of college administration is, therefore, significant in correlating academic inputs to satisfy the competitive urge for excellence in the world.

#### ***Working as a Team***

Every activity of the college is a team activity. At any college, teamwork and sharing of ideas are of prime importance. The head of the institution has to bear in mind that delegation of authority and division of work always go hand in hand. Faith in colleagues is a key factor. There can be a formal hierarchy in internal management and at the same time a lot of work can be carried out on the basis of informal relations. Curricular and extra-curricular activities in the college have to be shared by all. Freedom to the colleagues and flexibility in working are the main dimensions of this. It is the responsibility of the head of the institution to ensure that decision-making and implementation of decisions are always collectively done. Coming together is a beginning. Thinking together is a process, and working together is success.

#### ***Responsive Administrative Staff***

Administrative staff of an academic institution in India is a core part of its functioning. Office administration, correspondence, accounting, record keeping, maintenance of infrastructure etc. are the continuing activities of the administration. Participation of

administrative staff in administration should be encouraged and the working of the college office made efficient in every respect. An efficient head fails to perform his or her duties if the administrative staffs are not responsive and dynamic in carrying out various programmes.

#### ***Financial Transparency***

The financial aspect of administration should be totally transparent and governed by ethics and moral values. As a college is a public institution, every care has to be taken to maintain and develop faith of stakeholders and people in general.

#### ***Learner-Centred Approach***

The student is the main stakeholder in the process of education. Integrity of teachers is counted in terms of their sincerity in performing the duty of imparting knowledge. It is a duty of the administration to see that this process of learning and training gets the prime importance in the functioning of the college. Reputation of an institution is always decided on the basis of the quality of its output. The learner centred approach has to be reflected in the curriculum, personality development programmes, guidance and regular class teaching. The social image of the institution is always built up on this foundation.

#### ***Innovativeness and Educational Experiments***

In view of the emerging trends in education, it is the duty of the college administration to explore new avenues and adopt innovative approaches. Research activities, vocationalisation, add-on-career oriented courses, IT related innovations, experiments in the teaching-learning process and development of quality assurance cells are some of the notable features. They will certainly improve the performance of the institutions.

#### ***Students Placement Center***

The college administrators are responsible for placement of their students. For that they need the best quality of education.

#### ***Problems faced by the Administration***

College administration is a complex task. It has many angles to be considered. The challenges in the modern times have created a sense of competition and quality consciousness among constituents of college administration. It has some constraints and inherent limitations, which cannot be ignored in the administration process. Liberalisation, privatisation and globalisation of education have become the buzzwords but at the same time the complexities are also increasing. The government is almost withdrawing itself from providing financial assistance. Private unaided-managements have developed a sense of commercialization of administration. The number of students in basic sciences, humanities and languages is declining very fast. The private-unaided institutions have monopolized careers in technology and medicine. The resource crunch has become more severe due to the recent policies of the government. It is only through proper planning and observance of austerity measures that the colleges can now be run, particularly when the philanthropic instinct too has gradually disappeared and higher education has gone to the commercial entrepreneurs who have started promoting it for profit. Industry interface, resource sharing, pooled teaching, classes in the evening, autonomous courses and such other sources can be beneficial to a large extent.

### **Responsibilities of College Administration**

It is clear that the principal of a college has a definite role in planning and college activities. S/he is the catalyst in pursuing the ideals for which the college stands. Of course, it cannot be done without the support of teaching and office staff and management of the institution (Trustees). In the context of the above listed challenges, the principal has to develop his/her style of functioning in such a manner that the administration becomes a collective and co-operative activity. S/he has to combine vision with routine work, evolve interactive approach and sharing of ideas in the spirit of teamwork. The call for social responsibility and converting a period of transition into an era of quality improvement can be responded to successfully by the college administration with collective vision and a zealous attitude. It can produce a generation of youth with confidence to face the challenges of the times.

In the past, educational processes were not confronted with the kind of challenges, which have to be faced today. Presently, technologies are changing much more radically and rapidly than ever before. What are the college administrators supposed to do? They must go along with the changes. The technological changes are resulting in changes not only in tools, the infrastructure and the profiles of work-related activities but also in organizational structures, demographic profiles and even the concepts associated with national identity and sovereignty.

A college administrator must be a good planner, for nobody knows for sure what the world of the year 2020 and further will look like. But judging from the rate of changes during the last decade, it seems reasonable to state that the 20s and 30s of the 21st century will be different from the contemporary world, by an order of magnitude unprecedented in history. In spite of this forbidding prospect, the educational planners and administrators of colleges today have to start thinking of the manner in which the people living in this sub-continent will be able to respond to the challenges most entrants into the portals of colleges and universities will have to face.

### **Globalization and Administration**

Waters, an authority on globalization, believes that although the word global is over 400 years old, the common usage of such words as 'globalization', 'globalize' and 'globalizing' did not begin until about 1960. Webster became the first major dictionary to offer definitions of "globalism and globalisation" (Behar, 2005).

Nobel Laureate Joseph Stiglitz defines globalization as removal of barriers to free trade and the closer integration of national economies (Stiglitz, 2002, as quoted in Behar, 2005).

Globalization is today a new trend—not just in economic, commercial and technological fields, but also in education. In the meantime the supreme court of India made judicial history when the court constituted a five-Judge Bench to interpret the judgment of an 11-Judge Bench on private higher education, its judgement delivered on October 31, 2000 that higher education be privatized. Now the higher education administrations legally have been permitted to establish and develop private institutions in India. The responsibilities of administration are

- All the staff should be informed clearly about globalization and privatization
- The objectives of globalization should be made clear

— Not more than 30% institutions should be private institutions and there may be 70% government institutions

— The government has the responsibilities to control the activities of private institutions

— Students should have the right to select what they need and what is good for them

### **Suggestions**

Higher education administration in the 21<sup>st</sup> Century in India must train people not only for the present but also for the future. Given the great impact of liberalisation, privatisation and globalisation of knowledge, what will happen to the great variety of socio-cultural norms and organizational structures existing in India today? Will the people living in different micro environments, with their own uniquely distinctive life styles, be able to retain their individuality and protect their culture and values, or will people everywhere in India, become the clones of people in the US, Japan, Germany or some other developed country? The opinion of Tata becomes relevant on this issue. "To be a leader you have got to lead human beings with affection" (Batra, 1992). We need to remember these words for the development of education field.

Therefore, it is suggested that—

- 1 The challenge of the 21<sup>st</sup> century is a challenge to survive as institutions of quality or excellence
- 2 Universities and colleges will have to build credibility for themselves and make their operations simple, efficient and meaningful
- 3 Universities and colleges will be forced to accept liberalisation, privatisation and globalisation, so that students as clients or customers would choose what they want on the basis of their tastes and needs
- 4 Improving the efficiency of the university and college administration system is more urgent than ever before. One obvious way of doing this will be to impart professional training to those already engaged in educational administration
- 5 Availability of equipment as well as teaching and research facilities of the highest order will become a major concern. New procedures need to be adopted for procurement and maximum returns should be ensured before investment. If the institutions see the fundamental need to go deep with a view to adopting new approaches and processes to bring about changes, they will be equipped to meet the challenges of the 21<sup>st</sup> century

### **References**

- Batra, P (1992) *A collection of management thoughts*. New Delhi: Think Inc.
- Waters, Michael & (Stiglitz, Joseph, 2002 (as quoted), In Behar, S C (2005) *Globalization—education, perceptions and processes*. Pune: Indian Institute of Education.

Manuscript received on June 18, 2005

## ***Cognitive Process Differences among Learning Disabled and Non-learning Disabled Children***

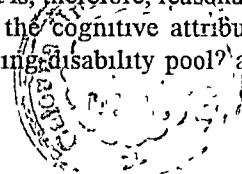
**PREETIVERMA**

*The study sought to find out in what ways Learning Disabled (LD) and Non-learning Disabled (NLD) would differ significantly in respect of their cognition. Learning Disabled (LD), and Non-learning Disabled (NLD) equal in number ( $N = 36$ ) were compared in respect of their mean scores on measures of cognition - attention, perception and memory. Out of an initial sample of 1140 male students belonging to 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> grades, 160 children were screened as discrepant achievers using standard score and regression methods. They were further got rated by their teachers on the Behavioural Check List for Screening Learning Disabled (BCSLD). Those found 'at risk' were further administered Wechsler Intelligence Scale for Children (WISC III). Those who scored  $P > V$  at least by 12-15 points were considered LD.*

*Learning Disabled and the Non-learning Disabled groups were found significantly different in respect of selective attention, auditory discrimination, visual discrimination, figure ground and perception score (total). Memory failed to discriminate between the two significantly.*

### **Introduction**

Lack of conclusive research in India prevents one from drawing firm conclusion about the prevalence of learning disability. It is being increasingly realised that disabled lack basic competencies. Not progressing as expected keeps them 'unfulfilled'. If they are not diagnosed early they become hard entrenched into the syndrome. Some of the basic questions that teachers as also other professionals are deeply concerned with are: How do children learn and why they do not learn? Why some time children do catch up to ability while others do not? How to account for the discrepancy between what they should be able to do and what they actually do? Is the discrepancy between ability and achievement a crucial ingredient and an accepted "red-flag" for learning disability? Why do substantial number of children have serious problems in achieving at a normative level commensurate with their potential? Specifically, who they are, why they have problems and how these problems should be dealt with remain unresolved. It is, therefore, reasonable to ask what constitutes learning disability? Which of the cognitive attributes characterise the individuals placed in a potential learning disability pool? and



which ones distinguish them from the Non-learning Disabled (NLD) lot? Despite its critical importance, not much effort has gone in to address the unanswered questions regarding the cognitive make-up of LD and NLD, particularly in the Indian context

### Related Studies

Students with learning disabilities experience significant problem in the area of cognition. They show differences from the normal, both in ultimate cognitive structure and manner in which it develops. They have trouble with attention perception and memory (Neiser, 1967, Eliot, 1971, Myklebust, Bannochie & Kitten, 1971). Dykeman, *et al* (1983) reported some degree of attentional deficit in LD children. Their test-taking ability is affected due to attentional problems (Scruggs, 1984). They find it hard to focus their attention on selected sound, word, number or line of print.

Strauss & Lehtinen (1947), Cruickshank, Beston, Ratenburg & Tannhauser (1961) suggest that major difficulty with LDs is their inability to use attention selectively. Selective attention deficits result in slower learning rate among LD children (Hallahan & Reeve, 1980), their ability to attend to relevant feature of a task is found defective (Hallahan & Bryan, 1981), they commit more errors than controls on a selective task (Gail, Samuels, Turnure & Yesseldyke (1990), earn significantly lower scores on both visual and spatial task (Sinclair, *et al* , 1984), and differ in their ability to attend to relevant information in auditory sensory store (Cherry & Krugger, 1983). Deviating from the general trend Torgesen and Honk (1980) reported that LD and NLD children perform equivalently on a digit span tasks and attentional deficits are not necessarily the underlying problem for all students with academic difficulties, while Fleisher, *et al* (1984) found evidence of selective attention deficit at best inconclusive.

Another major concern of the field of learning disabilities has been with perceptual abilities (Reid & Hersko, 1981). Research indicates the presence of visual and auditory discrimination problems among LDs. As a group, LDs perform poorly on tasks designated to assess visual perceptual abilities (Hallahan, 1975). Deficit in auditory perceptions has been studied with several consequences (Estes & Hurzinger, 1974 and Heath & Early, 1974). Auditory perceptual difficulties are more often found in learning disabled than in normal children (Golden & Steiner, 1969 and Lingren, 1969). Figure ground difficulties (Birch, 1962 and Bender, 1967), inadequate visual synthesis and analysis (Birch, 1962), visual motor difficulties (Kephart, 1960, Cruickshank, 1967 and Frostig & Maslow, 1973) are associated with LD children.

Learning disabled children are reported, also, to perform more poorly on memory task than do children who learn normally in the classroom (Johnson & Morasky, 1977, Torgesen, 1978). Swanson, 1977a, Torgesen & Goldman, 1977 Vellutino, *et al* (1975b) show link between memory development and learning disabilities, they exhibit poor performance on a variety of memory tasks (Torgesen, 1977 , 1978 and Baur, 1977 a & b).



Short-term learning problem (Torgesen, 1988, Torgensen, *et al* , 1991 and Swanson, 1984) long term memory deficit arising from failure to integrate visual and verbal memory traces of visually presented stimuli, quality of rehearsal (Baur & Embert, 1984), selection of less efficient strategies (Wong, 1982) characterise the learning disabled lot

Learning disabled students cannot adequately integrate visually and auditorially presented information (Kirk & Kirk, 1971 and Lerner, 1976) They show deficit for both auditory and visual stimuli (Aten & Davis, 1968, Bakker 1967, 1971, Farnham-Diggory & Gregg, 1975, Freston & Drew 1975, Ring, 1976, Vande Voort & Senf, 1973 and Wug & Roach 1975)

### **Hypothesis**

Although research conducted in the West frequently report attention, perception and memory to be associated with learning disability, the findings are not unequivocal Therefore, this paper seeks to find out—Whether or not LD children differ significantly from NLD children in respect of attention (selective), perception (visual and auditory discrimination) and memory (auditory sequential as well as visual sequential)

### **Methodology**

#### **Sample**

Children from three schools located in the Western suburb of Mumbai were selected to form the sample The initial sample consisting of N= 1140 male students was drawn using the method of cluster sampling from three schools, 380 from each grade level—3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup>—belonging to the age bracket of 8 5 years to 10 9 years (mean age = 9 5 years, S D =1 43 years)

#### **Measures**

##### **Screening Measure**

*Raven's Coloured Progressive Matrices* (CPM, 1962, Aptitude Measure)

CPM consists of three sets of twelve problems arranged to assess the chief cognitive process of which children under 11 years of age are usually capable, Cultural contexts including India, Africa and Asia have yielded validity data around +0 6 to +0 7 (Raven, 1962) Raven (1990) reported split-half reliability of 0 90 using kindergarten to sixth grade children and 0 85 with subjects aged, 6, 7 and 8

##### **Achievement Measure**

Marks awarded in the first terminal examination for the four different school subjects, viz English, Hindi, mathematics and social studies for grades 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> were used as measures of achievement Reliance has been put on teacher- made test following an ideal dictum 'One who teaches also evaluates '

##### **Measures to Identify Children with Learning Disability**

*Wechsler's Intelligence Scale for Children* (WISCIII, 1991)

WISC III comprises 13 improved sub-tests WISC-R and a new sub-test Symbol

**Search** The sub-tests are organized into two groups. The verbal sub-tests and the perceptual motor or performance sub-tests. Reliability coefficient for the thirteen sub-tests, three IQ scales and four factor-based scales range from .69 to .95. Validity on special education students ranged from .70 to .88. It has been indicated that difference in verbal (V) and performance (P) sub-tests of LD is expected  $P > V$  at least by 12-15 points.

*Behavioural Checklist for Screening Learning Disabled* (BCSLD, Swarup & Mehta, 1991)

BCSLD consists of 30 positive and negative items to be marked by teachers for obtaining information about children 'at risk'. The checklist attempts to determine whether or not they suffer deficit in respect of integrating all aspects of learning, i.e. the ability to process visual and auditory information, memory, comprehension, thinking, psychomotor skills, self-image and motivation.

Measures of Cognitive Processes (Swarup & Verma, 1997)

### *Cognition*

#### *Attention*

Selective attention is measured with the help of seven sub-tests/ experimental task requiring subjects to select the task of colouring a particular number in a maze or shapes that contain part of a word, attend and search in crossword type of puzzle, cancellation and matching tasks etc.

#### *Perception (Perceptual Factors)*

**Auditory discrimination** It consists of two sets of meaningful words in pairs. Each set consists of ten words put randomly. Some words sound alike while others produce dissimilar sound. The subject has to discriminate between the differently sounding words.

**Visual discrimination** It has six sub-tests. First sub-test consists of four exercises containing some quasi-familiar and fully structured shapes. In each exercise out of five figures only one figure is different in some minor but visually important characteristics. This odd figure is to be identified. Test II, III, and IV measure visual matching leading to visual discrimination. Task in test II is to match a particular geometrical figure in column 'A' with those in column 'B'. Test IV requires auditory visual integration of visual items. Test V requires subjects to identify and discriminate between the alphabets P and Q from a number of jumbled alphabets as well as discriminate between red and green. Test VI seeks visual discrimination at the symbolic-level. The word configuration is purposely kept overlapping to test visual discrimination.

**Figure-ground** Figure-ground perception is measured through six sub-tests. The tests require counting and writing the number of rings two children are juggling with, counting the fruits, shown in a picture and write their number variety wise, finding the bowl and outlining different vases and shapes from overlapping pictures of vases and bowls, counting and writing the number of overlapping umbrellas-

from among the figures of many open umbrellas, counting the number of butterflies perceived from the overlapping pictures count the number of animals from the picture showing animals overlapping among themselves

### *Memory Tests*

**Auditory memory** The test of auditory memory aims at sound symbol association. The task involves hearing, recognizing, matching and labeling. In the three memory tests (I, II and III) only auditory mode of presentation of stimulus has been used. A correct response requires identification and production of the stimulus word from a set of words presented auditorially.

**Auditory sequential memory** The tests measuring sequential memory have five parts. They include—immediate memory span tests used in Stanford Binet and Wechsler Intelligence Scale for Children/Adults. For digits forward item the child repeats the number in the same order as spoken. For digits backward item, the child says the number in reverse order. Tests II, III, and IV measure sequential memory for words. In all the three tasks some context is provided to bring it within the framework of familiar experience. The task in the Vth test consists of two to six words combination (discreet stimulus words). The words do not provide any contextual/familiarising reference about the given stimulus word.

**Visual sequential memory** Visual memory has been tested through (i) picture and numerical coding, (ii) word-pair recall, (iii) visual sequential memory, through pictorial and symbolic content. In test I, II, and III some figures are paired with code numbers which are visually presented in random order. The S has to match the correct code to which the figure is originally paired with. Test IV consists of conventional pair of words. Test V has non-conventional pair of words and the Vth is a test of visual memory with reasoning.

All experimental tasks were tried out and pre- tested on a combined sample of 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> grade students (N= 60) of Mumbai's Western Suburb.

### *Procedure*

#### *Identification of Children with Learning Disability*

One hundred and sixty students were screened as discrepant achievers using standard scores and regression methods. Their scores on CPM and four school subjects were converted into Z scores with a Mean of 100 and SD of 20. Z scores in English, Hindi, math and social studies were subtracted from CPM Z scores. Those, whose difference scores fell between -10 and -100 and whose obtained Z scores fell at least 1 Std. Error (SE) of estimate below their predicted scores commonly at least in two school subjects were designed as discrepant achievers. Their teachers then rated them on BCSLD (Swarup and Mehta, 1991). Those who scored at or above the 75<sup>th</sup> percentile were marked 'at-risk'. They were further administered WISC III. Those who scored P > V at least by 12-15 points were considered LD. Forty-three students were identified as LDs. Parents of all LDs were contacted before including them in the final sample. Some of them had their reservations. Some students did not attend all the testing sessions. Thus, only 36 subjects survived till the end. Dropout was treated as random.

### Selection of NLD Sample

The Non-LD group, equal in number to the LD group (N = 36), was selected randomly from the pool of data that did not have severe ability-achievement discrepancy and were not classified as LDs. There was only a remote possibility that the random placement of subjects in NLD group would result in a systematic relationship between some characteristics of the subjects and the particular grouping. The school environment and the teaching were the same for LDs and NLDs. Both the groups were administered the tests of Cognition. Test of Cognition consisted of series of experimental tasks, therefore, they were administered individually to each student. Standardized instructions were given. The experimental tasks were given in two sessions lasting approximately about thirty minutes, varying with the subjects. Alternate testing of Cognition was planned across tasks, grades and schools. LDs, were observed to be restive, took more time and needed prompts or cues.

### Results and Discussion

**Table 1. Means, SDs and *t* Values: Comparison between LD and NLD Groups on Cognitive Variables**

Motivational variables	Learning disabled group N=36		Non-learning disabled group N=36		<i>t</i> Values
	Means	SDs	Means	SDs	
Attention					
Selective attention	52.27	4.02	57.44	3.73	5.65**
-----					
Perception					
Auditory discrimination	15.02	1.97	17.55	1.93	5.48**
Visual discrimination	34.72	3.56	36.50	2.35	2.49*
Figure ground	41.16	3.66	43.66	2.80	3.25**
Perception score (Total)	91.27	5.99	98.16	4.23	5.63**
-----					
Memory					
Auditory memory	41.72	7.07	44.97	10.11	1.58
Visual memory	34.41	4.62	35.91	5.12	1.30
Memory score (Total)	76.13	9.22	81.18	12.09	1.99

*df* = 70, Level of significance = \* at < .05 and \*\* at < .01

Table 1 shows Means, SDs and *t* values obtained for comparing LD and NLD groups on cognitive variables: attention (selective attention), perception (auditory discrimination, visual discrimination, figure ground) and memory (auditory memory and visual memory).

#### Selective Attention

LD and NLD groups differed significantly in respect of their selective attention. The observed mean for the former was 57.44, whereas it was 52.27 for the latter. The *t* value was 5.65 significant at or beyond .01 level of confidence. LDs had a poorer selective attention as compared to NLDs who were characterized as having an edge over them.

LDs' deficit might be described as problem in selective recall. The process of selective attention allowed the central nervous system to focus on relevant

stimuli and differentiate them from other data simultaneously received. Since the process of 'selection' occurred in short-term memory, the child with learning disability was not able to organize what was selected and could not code and 'work out'. A possible consequence, then, of an attention problem was that students might focus on the irrelevant details while missing the central issue. Another possible problem was that children might guess at answers impulsively, without looking at the word, listening to the question or thinking through their response. It might be that LDs fail to spontaneously produce a task/appropriate strategy to learn. Longer response time to complete the experimental task by LDs, perhaps indicated that they had slower information processing skills than NLDs.

Findings supported those of Cherry and Krugger (1983), Hallahan (1975), Hallahan & Reeve (1980), Hallahan & Bryan (1981), Samuels, Turnure & Ysseldyke (1990), and Fleisher, *et al* (1984). In contrast, Samuels & Miller (1985), and Conners, Kramer, & Guerra (1969) reported no difference between LDs and controls on selective attention task. Some additional plausible reasons for problem of attention among children with learning disability could be one, they brought a failure set to each new learning task, two, they might be using attention problem to circumvent responsibility for learning, and three, they might have poor task-approach skills and be deficient in their effort or energy required to perform cognitive tasks at which they were reported generally deficient. Deficit in selective attention would not enable the LD child to ignore extraneous stimulation and to focus attention on those elements that enhance learning.

### **Perception**

#### **Auditory Discrimination**

Auditory discrimination distinguished between LD and NLD groups significantly. NLDs scoring higher mean (17.55) as compared to LDs (15.02) with a significant value = 5.483 (sig. at .01 level) suggested that the groups were not alike and difference between their means was not the product of chance. NLDs were found to discriminate auditory stimulus much better than LDs. Auditory discrimination is the ability to distinguish similarities and differences in sounds. LD children with an auditory discrimination problem were unable to tell the difference in sounds which were alike and different. Obtained result supported those of Hallahan (1975), Gola & Steiner (1969), and Flynn & Bryne (1970) who reported auditory perceptual difficulties among LDs. Such difficulty might look logical since reading required the individual to associate visual units with the auditory equivalents. Reading is an important component of language syllabus in lower classes. A strong relationship was suggested between auditory perceptual skills and achievement in primary grade (Rosner, 1975). Hence the findings were in tune with literature and theory while Hammil and Larsen's (1974) study was contraindicated.

#### **Visual Discrimination**

Visual discrimination refers to the ability to recognise an object as distinct from its surrounding environment. LDs and Non-LDs were different in respect of their strength for discriminating visual stimuli. The difference had been found to be

significant. The non-LD group scored a mean value of 36.50 as against 34.72 for the LD group. The  $t$  value = 2.49 was observed significant at the .05 level. Better discrimination of visual stimuli characterizes NLD group. Visual discrimination difficulties of the LD group could interfere with the ability to accurately identify symbols, gain information from picture, charts or graphs, or be able to use visually presented material in a productive way.

Obtained findings supported those of Di-Lollo *et al.* (1983), Hulme (1988), and Lovegrove *et al.* (1986). Most academic functioning in schools was considered related to the processing of visual material. It depended a lot upon form and symbol recognition and interpretation. Reading, which was an important component of language learning (e.g., appeared intuitively to be a visual task and impaired perceptual functioning), was considered to be related to impaired reading ability. Perhaps LDs might be having difficulty in associating symbols with their verbal counterparts and mis-labeling them.

#### Figure-ground

With respect to another component of perception—the figure ground, the two groups were significantly different in respect of mean comparison. The mean value of 43.666, for non-learning disabled group, on six sub-tests designed to measure figure ground perception, was observed to be higher than the mean (41.16) of the learning disabled group. The  $t$  value = 3.25 was significant at the .01 level.

Perception as a whole inclusive of auditory discrimination, visual-discrimination and figure-ground has emerged as distinguishing variable that places apart two compared groups of LDs and NLDs significantly at the .01 level. The mean for NLD group (96.16) was higher than the mean of the LD group (91.27). The obtained  $t$  value was observed significant at the .01 level and beyond.

#### Memory–Auditory and Visual

Auditory and visual memory is the ability to store and recall information which is given verbally or presented visually. Auditory memory as well as visual memory could not distinguish LD and non-LD groups in respect of their mean differences. The difference in mean values of auditory memory as well as visual memory for two groups could just be a product of chance. The  $t$  values of 1.58 for auditory memory and 1.30 for visual memory were found non-significant at the acceptable level of confidence. Findings contradicted those reported by Alwit (1963), Matheny (1971) and Stanley & Hall (1973) who found deficit in auditory memory tasks undertaken by LDs. One reason for differential findings could be the sample studied and the context, another reason could be the dependence of performance on a memory task upon factors, such as the intent to remember and the availability and application of strategies. LD children might also be less skilled than NLD peers in the use of rehearsal strategy used to store information in long term memory. LD children who performed poorly on auditory memory tasks might also perform poorly when stimuli were presented visually, as long as the structure of the task remained the same.

#### Total Memory Score

The total memory score for the two groups also failed to discriminate one from the

other The NLD group obtained a total memory score of 81.18 whereas the LD group scored a mean score of 76.13. The four kinds of memory strategies-rehearsal, organization, retrieval and imagery Matlin (1994) are utilized by LD and NLD groups in a like manner. The finding did not support the studies of Wong (1978), Wong, Wong & Foth (1977) who have documented memory deficits in LD students as well as those of Torgesen (1977), Bauer (1977a, 1977b) and Torgesen (1978). The study supported the evidence put forth by Morrison, Giordani, & Nagy, (1977), i.e. for majority of memory tasks LD and NLD children were comparable.

### Conclusion

The learning disabled and non-learning disabled are significantly different in respect of selective attention, auditory discrimination, visual discrimination, figure ground, perception score (total). However, the two groups did not differ significantly in memory.

### References

- Alwit, L (1963) Decay of immediate memory for visually presented digits among non-readers and readers *Journal of Educational Psychology*, 54, 44-45
- Aten, J & Davis, J (1968) Disturbance in perception of auditory sequence in children with minimal cerebral dysfunction *Journal of Speech Hearing Research*, 11, 226-245
- Bakker, D J (1967) Temporal order, meaningfulness and reading ability *Perceptual and Motor Skills*, 24, 1027-1030
- Bakker, D J (1971) *Temporal order in disturbed reading*, Rotterdam: University of Rotterdam Press
- Baur, R H (1977a) Memory process in children with learning disabilities: Evidence for deficient rehearsal *Journal of Experimental Child Psychology*, 24, 415-430
- Baur, R H (1977 b) Short-term memory in learning disabled and non-disabled children *Bulletin of the Psychonomics Society*, 10 128-130
- Baner, R H & Embert, J (1984) Information processing in reading-disabled and non-disabled children *Journal of Experimental Child Psychology*, 37, 271-281
- Birch, H (1962) Dyslexia and the maturation of visual functions. In J Money, (Ed) *Reading disability: progress and research needs in dyslexia*. Baltimore MD: John Hopkins University Press
- Cherry, R & Kruger, B (1983) Selective auditory attention abilities of learning disabled and normal achieving children *Journal of Learning Disabilities*, 16, 221 - 225
- Conners, K, Kramer, K & Guerra F (1969) Auditory synthesis and dichotic listening in children with learning disabilities *Journal of Special Education*, 3, 163-170
- Cruikshank, W M (1967) *The brain injured child in home, school and society*. Syracuse NY: Syracuse University Press
- Cruikshank, W M, Beston, S A, Ratenburg, F H & Tannhauser, M T (1961) *A teaching method for brain-injured and hyperactive children*. Syracuse NY: Syracuse University Press
- Di Lollo, V, Hanson, D & McIntyre, J S (1983) Initial stages of visual information processing in dyslexia *Journal of Experimental Psychology, Human Perception And Performance*, 9, 923 - 935
- Dykman, R A et al (1983) Physiological manifestation of learning disability *Journal of Learning Disabilities*, 16, (1) 46-53

- Eliot, J (1971) *Human development and cognitive process* New York Holt Rinehart and Winston
- Estes, R & Hurzinger, R (1974) A comparison of visual and auditory presentations of a paired associate learning task with learning disabled children *Journal of Learning Disabilities*, 7, 35 - 42
- Farnham-Diggory, S & Gregg, L W (1975) Short term memory function in young readers *Journal of Experimental Child Psychology*, 19, 279-298
- Fleisher, L S, *et al* (1984) Selective attention deficit in learning disabled children Analysis of the database *Exceptional Children*, 51 (2), 136-141
- Flynn, P T & Bryne, M C (1970) Relationship between reading and selected auditory abilities of third grade children *Journal of Speech and Hearing Research*, 13, 731-740
- Freston, C W & Drew, C J (1974) Verbal performance of learning disabled children as a function of input organisation *Journal of Learning Disabilities*, 7(7), 424-428
- Frostig, M & Maslow, P (1973) *Learning problem in the classroom*, New York Gune & Stratton
- Gail, P R, Samuels, S J, Turnure, J E & Yesseldyke, J E (1990) Sustained and selection attention in children with learning disabilities *Journal of Learning Disabilities*, 23, (2), Feb (1990), 129-36
- Giebrink, J W & Goodsell, L L (1968) Reading ability and associative learning for children with visuomotor deficit *American Educational Research Journal*, 5, 412-420
- Golden, N E & Steiner, S R (1969) Auditory and visual functions in good and poor readers *Journal of Learning Disabilities*, 2, 471-481
- Guthrie, J T & Goldberg, H K (1972) Visual sequential memory in reading disability *Journal of Learning Disabilities*, 5, 41-46
- Hagen, J W, Jongeward, R H & Kail, R V (1975) Cognitive perspective on the development of memory In H W Reese (Ed) *Advances in child development and behaviour* (Vol 10) Orlando FL, Academic Press, 57-97
- Hallahan, D P (1975) Distractibility in the learning disabled child In N M Cruickshank & D P Hallahan (Eds) *Perceptual and learning disabilities in children (Vol-2)-Research and theory*, 195-220 Syracuse, NY Syracuse University Press
- Hallahan, D P & Bryan, T H (1981) 'Learning disabilities' In James M Kauffman & Daniel P Hallahan (Eds) *Hand book of special education* Englewood Cliffs, New Jersey Prentice Hall, Inc, 141-164
- Hallahan, D P, Kauffman, J M & Ball, D W (1974) Developmental trends in recall of central and incidental auditory material *Journal of Experimental Psychology*, 17, 409-421
- Hallahan, D P & Reeve, R E (1980) Selective attention and distractibility in B K Keogh (Ed) *Advances in special education*, (Vol 1, 141-181), Greenwich JAI Press
- Hammil, D D & Larsen, S (1974) The relationship of selected auditory perceptual skills to reading ability *Journal of Learning Disabilities*, 7, 424-436
- Heath, E & Early, G (1974) Intra-modal and inter-modal functioning of normal and learning disabilities children *Academic Therapy*, 9, 133-149
- Hulme, C (1988) The implausibility of low level visual deficits as a cause of children's reading difficulties *Cognitive Neuropsychology*, 5, 369-374
- Johnson, S W & Morasky, R L (1977) *Learning disabilities*, Boston Allyn and Bacon Inc
- Kephart, N (1960) *The slow learner in the classroom* Columbus, Ohio Charles E Merrill
- Kirk, S A & Kirk, W D (1971) *Psycholinguistic learning disabilities Diagnosis and remediation*, Chicago University of Illinois Press



- Lerner, J (1997) *Learning disabilities Theories, diagnosis, and teaching strategies*, (7th edition) New York Houghton Mifflin
- Lingren, R H (1969) Performance of disabled and normal readers on the Bender-Gestalt auditory discrimination test and visual-motor matching *Perceptual and Motor Skills*, 29, 152-154
- Lovegrove, W, Martin F Slaghius, W (1986) A theoretical and experimental case for a visual deficit in specific reading disability *Cognitive Neuropsychology*, 3, 225-267
- Matheny, M J (1971) Cognitive therapy and research A question of questions *Cognitive Therapy and Research*
- Matlin, Margaret, W (1994) *Cognition* Holt, Reineheart & Winston Inc , 173
- Morrison, F J, Giordani, B, & Nagy, J (1977) Reading disability An information processing analysis *Science*, 196, 77-79
- Myklebust, H R, Bannochie, M N & Kitten, J R (1971) Learning disabilities and cognitive process In H R Myklebust (Ed) *Progress in learning disabilities (Vol 2)* New York Grune & Stratton
- Parker, T S, Freston, C W, Drew, C J (1975) Comparison of verbal performance of normal and learning-disabled children as a function of input organisation *Journal of Learning Disability*, 8, 386-393
- Raven, J C (1962) *Coloured progressive matrices*, H K London Lewis & Co Ltd
- Raven, J C (1990) *Manual for Raven's coloured progressive matrices and vocabulary scales*, (1990) Section 2 Great Britain Oxford Psychologist Press,
- Reid, D K, & Hersko, W (1981) *A cognitive approach to learning disabilities* New York McGraw Hill
- Ring, B C (1976) Effects of input organisation on auditory short-term memory *Journal of Learning Disabilities*, 9 (9), 591-595
- Rosner, J (1975) *The development and validation of an individualised perceptual skills curriculum*, Pittsburgh University of Pittsburgh learning, research and development center, publication no 1972 (7)
- Samuels, S J & Miller, N L (1985) Failure to find attention differences between learning disabled and normal children on classroom and laboratory tasks *Exceptional Children*, 51 (5), 358-375
- Scruggs, T (1984) *The administration and interpretation of standardised achievement tests with learning disabled and behaviourally disordered elementary school children* Salt Lake City University of Utah Special Education Programme
- Sinclair, E, *et al* (1984) Establishing a connection between severity of learning disabilities and classroom attention problems *Journal of Educational Research*, 78 (1), 18-21
- Strauss, A, & Lehtinen, L (1947) *Psychopathology and education of the brain injured child (Vol 1)*, New York Grune & Stratton
- Standely, G, Hall, R (1973) Short-term visual information processing in dyslexics *Child Development*, 44, 841-844
- Swanson, H L (1977) Nonverbal visual short-term memory as a function of age and dimensionality in learning disabled children *Child Development*, 45, 51-5.
- Swarup, S & Mehta, D (1991) *Behavioural Checklist for Screening the Learning Disabled* Mumbai S N D T Women's University, Centre of Special Education, Juhu Campus
- Swarup, S & Verma, P (1997) *Measures of cognitive process* S N D T Mumbai Women's University, Centre of Special Education, Juhu Campus
- Torgesen, J K (1977) Memorization process in reading disabled children *Journal of Educational Psychology*, 69, 571-578

- Torgesen, J K (1978) Performance of reading disabled children on serial memory tasks *Reading Research Quarterly*, 14, 57-87
- Torgesen, J K (1988) Studies of children with learning disabilities who perform poorly on memory span tasks *Journal of Learning Disabilities*, 21 605-612
- Torgesen, J K & Goldman, T (1977) Rehearsal and short-term memory in second grade reading disabled children *Child Development*, 48, 56-60
- Torgesen, J K & Honk D G (1980) Processing deficiencies of learning-disabled children who perform poorly on the Digit Span Test *Journal of Educational Psychology*, 72 141-160
- Torgesen, J K, Rashotte J, Greenstein, J, & Porters, P (1991) Further studies of learning disabled children with severe performance problems on the Disit Span Test *Learning Disabilities Research and Practice*, 6, 134-145
- Vande Voort, T L, & Senf, G (1973) Audio visual integration in retarded readers *Journal of Learning Disabilities*, 6, 170-179
- Vellutino, F R, Smith, H, Steger, J A (1975) Reading disability Age differences and the perceptual deficit hypothesis *Child Development*, 46, 487-493
- Wechsler, David (1991) WISC-III *Wechsler Intelligence Scale for Children* Third Edition St Antonio The Psychological Corporation, Harcourt Brace Jovanovich, Inc
- Wing, E H & Roach, M A (1975) Immediate recall of semantically varied "sentences" by learning disabled adolescents *Perceptual and Motor Skills*, 40, 119-125
- Wong, B Y L (1978) The effects of directive uses on the organisation of memory and recall in good and poor readers *Journal of Educational Research*, 72, 32-38
- Wong, B Y L (1982) Strategic behaviours in selecting retrieval cues in gifted normal achieving and learning disabled children *Journal of Learning Disabilities*, 15, 33-37
- Wong, B Y L, Wong, R, & Froth, D (1977) Recall and clustering of verbal materials among normal and poor readers *Bulletin of the Psychonomic Society* 10, 375-378

Original manuscript received on August 5, 2005,

Revised manuscript received on October 3, 2005

## ***Development and Implementation of Environmental Education Curriculum for Secondary Schools: The Indian Context***

JAYANTAMETE  
PARAMASAMADDAR

*The authors examine the national and international recommendations pertaining to the area of environmental education and outline their implementation at the secondary level of education in India*

### **Introduction**

Environmental Education covering the knowledge of environmental problems and their solutions has now become a global issue. It is now well established that most environmental degradations are of anthropogenic nature.

In the past, civilizations progressed with industrialization, urbanization and injudicious exploitation of natural resources through the application of science and technology. Lavish consumption of precious environmental resources by man, either for greed of the developed countries or for need by the poorer people of developing countries, caused a large-scale quality deterioration of environment. The extent of degradation has become so enormous that it now threatens the very existence of life on earth. One of the primary reasons for this is lack of awareness about the environment in people at large.

Global concern for environment and eco-friendly developmental programmes led to the need for environmental education. Awareness about the problems and remediation skills led to the international concern and efforts for environmental education.

The first United Nations Conference on environment was held in 1972 in Stockholm, Sweden. The conference was attended by 113 nations, UN agencies and non-governmental organizations. The Stockholm conference generated activity in the field of environmental education. As a result, the United Nations Environmental Programme (UNEP) and International Programme in Environmental Education (IPEE) by UNESCO were launched in 1975.

The first International Conference on Environmental Education (EE) was held at Tbilisi, USSR in 1977. The conference unanimously recommended intensification and expansion of environmental education. The urgent need of EE as a component of quality education was also recommended. Further, the conference also charted an action plan at the national and international levels for the promotion and development of EE.

The second International Conference on EE was held in 1985 at New Delhi and it resolved that EE is a must since individual and communities are harmed by ecological disruption

The third International Conference on EE held at New Delhi in 1989 recommended that EE should be adopted in Formal and Non-formal education systems of all countries. The University Grants Commission (UGC) and the National Council of Educational Research and Training (NCERT) endorsed the programme and implementation of the same in Indian schools and higher education systems

The students at the secondary level are much more mature than the primary level students with respect to the development of cognitive, affective and psychomotor domains of EE. Therefore, secondary students have been thought to be more appropriate for imparting awareness about environmental problems through environmental education. For this, it is imperative that a definitive goal of environmental education involving knowledge and skills about understanding and solving the problems of environment through the development of proper curriculum are developed. The strategy of implementation of the curriculum at different levels of study, especially the secondary level of education has also to be developed

### **Objectives**

In the background of the development of the concept of EE at the international and national levels, the objectives of this study are

- 1 To analyse the recommendations of the Tbilisi conference and that of UGC and NCERT, India
- 2 To pinpoint the goals and objectives of EE recommended by these International and National Expert Committees
- 3 To determine the stages of EE recommended by UNESCO, UGC and NCERT in India
- 4 To analyse the curriculum recommended by UNESCO (1983) and NCERT
- 5 To analyse the procedural approach for implementation of EE in secondary level of study

### **Recommendations of the Tbilisi Conference**

#### ***Guiding Principles***

The basic guiding principles from EE adopted in the Tbilisi Conference are presented below

- 1 To consider the environment in its totality (natural, artificial, technological, social, economic, political, moral, cultural, historical and aesthetic)
- 2 To consider the environmental education as a continuous life process from pre-school to all higher levels of formal education as well as non-formal education
- 3 To be interdisciplinary in approach
- 4 To emphasize active participation in prevention and solution to environmental problems

- 5 To examine major environmental issues from local, national, regional and international point of view
- 6 To promote the value and necessity of local, national and international cooperation in the prevention and solution of environmental problems
- 7 To emphasize the complexity of environmental problems and need to develop critical thinking and problem-solving skills
- 8 To utilize diverse learning about environment and different approaches to teaching and learning about environment

### **Objectives of EE as Recommended by UNESCO**

The following are the objectives of EE

**Awareness** To acquire an awareness of the total environment and its diverse problems

**Knowledge** To gain a variety of experiences and acquire a basic understanding of the environment and its associated problems

**Attitude:** To acquire a set of values and feelings of concern for the environment and the motivation for active participation in protection and improvement of environment.

**Skills** To acquire skills for identifying and solving environmental problems

**Evaluation ability** To evaluate environmental programmes and learning of them in terms of ecological, social, economic, aesthetic and educational factors

**Participation** To provide an opportunity to be actively involved in all levels in working towards the solution of environmental problems

### **Levels of Environmental Education in India**

Following NCERT and UGC, the chief goals of EE in India should be i) to improve the quality of environment, ii) to create awareness among the people on environmental problems and conservation and iii) to create an atmosphere so that people participate in decision-making and develop the abilities to evaluate the eco-friendly developmental programmes. EE, therefore, should be offered both at the formal and non-formal levels of education.

#### **Formal Environmental Education**

This again is divided into primary, lower secondary, higher secondary, collegiate and university levels of study.

In this study the analysis has been restricted to secondary levels of study since this is the most formative period of education of the child.

#### **Lower Secondary Stage**

The quantum of awareness at this stage would increase more than that at the primary stage and there should be increased knowledge of real-life situations, conservations and sustainable development. The emphasis should be on problem identification. The

teaching strategy includes the use of general science topics, supplemented with practicals, audio-visuals and field trips

### ***Higher Secondary Stage***

The emphasis must be on conservation, assimilation of knowledge, problem identification and action skills. The content used may be science-based and action oriented work. There should be attractive teaching, practicals and field work.

The above propositions have been generally accepted by NCERT in India. Recently NCERT has introduced a section called environmental science at the class VI level covering 20 marks. In the class IX and X levels in the syllabus of science and technology several important topics like natural resources, our environment, etc. have been incorporated. In the West Bengal Secondary Education (WBSE) syllabus of class IX and X topics like evolution, adaptation, biogeochemical cycles, ecosystems and conservation principles are incorporated. The WBSE has planned to introduce a separate course on environmental science.

In India, EE at the secondary stage faces serious problems of lack of resource materials, funds and trained instructors and teachers.

### **General Curriculum of EE as Recommended by UNESCO**

UNESCO (1983) recommended an outline of the Environmental curriculum consisting of two basic components

- 1 Essential knowledge about the environment that includes—
  - a. Structure and functions of ecosystems, b. Energy flow in the abiotic component of the earth ecosystem, c. Energy flow in the biotic component of the earth ecosystem, d. Biogeochemical cycles, e. Population dynamics and f. Human intervention in natural processes
- 2 Essential knowledge about problems of environment, this includes—
  - a. Major dimensions of environmental problems, b. Major causes of environmental problems and c. Broad-based measures towards solution of environmental problems

Following UNESCO, the major topics of environmental education broadly may be stated as

- 1 The environment and its components
- 2 Purpose and role of the biosphere
- 3 Reserve of natural resources
- 4 Man and ecological balance
- 5 Environmental exploitation
  - a. Exploitation and conservation of land resources, b. Exploitation and conservation of material resources and c. Exploitation and d. Conservation of biological resources
- 6 Population problem

- 7 Environment and economic development
- 8 Environment management
- 9 International cooperation and environmental protection

### **Procedure for Implementation of EE at the Secondary Level of Education**

Following the Tbilisi Conference, UNESCO considered the training of personnel, including pre-service and in-service teachers and others connected with environmental education as a priority activity. Like all other types of education, in environmental education also, the teacher is the sole arbitrator of curriculum and the central figure in the classroom. UNESCO therefore, recommended that

- 1 Environmental science and environmental education be included in curricula for pre-service teachers
- 2 The staff of teacher education institutions be associated in this respect, and
- 3 Teachers should get appropriate environmental training related to the area, either urban or rural, where they are going to work

It is a stark reality that majority of existing teachers had graduated from teacher training institutions at a time when the importance of environmental education was not so apparent. Their training courses were also deficient in environmental issues and the methodology of environmental education. In view of the above, it is recommended that in-service training of teachers in environmental education should be implemented either by refresher courses or workshops.

Effective environmental education programme for pre-service and in-service teachers should consist of three basic elements

- 1 The teacher needs a functional knowledge of environmental sciences
- 2 The teacher must have a grasp of the educational methods and professional skills needed to impart cognitive, affective and psychomotor skills to the learner
- 3 The teacher's training should expose him to actual situations in which learners can further strengthen their reservoir of skills

### **Strategies for Training of Teachers in EE**

The EE teacher must have sufficient competencies to be an effective environmental educator. S/he should exhibit foundation competencies in 1 Professional education, 2 Ecology, 3 Conceptual environmental awareness, 4 Environmental issue investigation and evaluation, and 5 Environmental action skills.

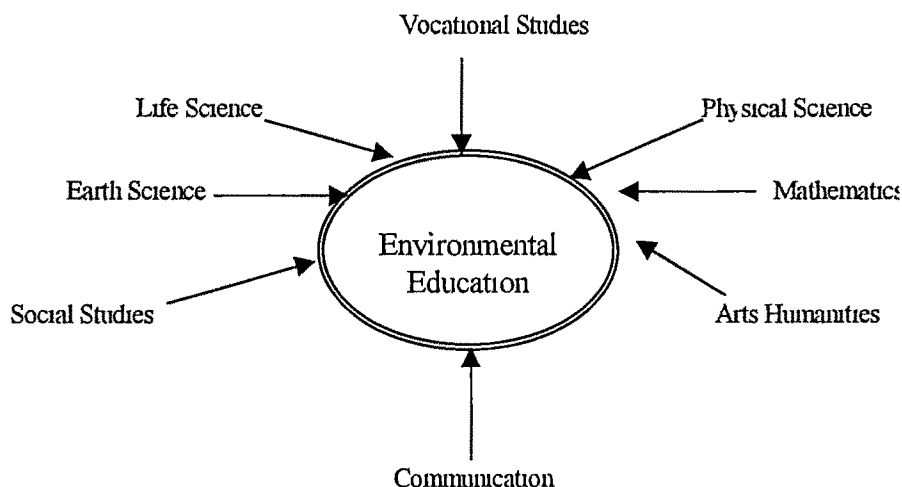
Including EE in the pre-service teacher training programme may involve any one or combination of the following approaches—i) developing a specific course in EE methods to be added in the curriculum, ii) infusing EE methods and its foundational components into existing courses and iii) addition of other courses in the curriculum which deal with foundational EE components.

However, the first and third approaches have certain constraints for application and the second approach, i.e. the infusion model has been accepted all over the world.

including India. Therefore, this model has been discussed in some detail below.

### *Infusion of E.E. Methods into Existing Courses*

Much of the content of EE may be found in other disciplines, but in a non-environmental context (examples are geography, history, sociology, physics, chemistry and life sciences). This condition makes the infusion of EE into an existing pre-service teacher-training programme very appealing. This is simply environmentalizing other required courses in the programme. The infusion model is shown (Fig. 1) below (UNESCO, 1980).



**Fig. 1. The Infusion model of EE**

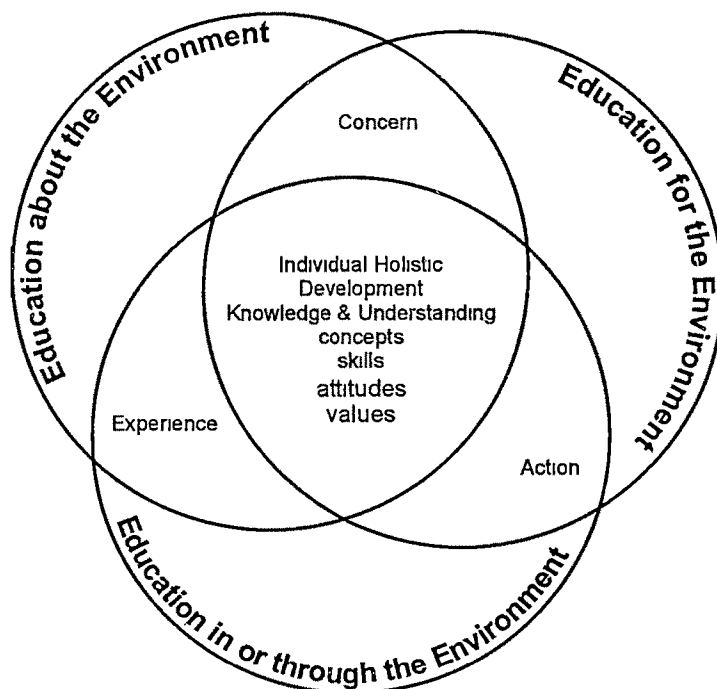
In the infusion model, multidisciplinary approach is recommended for EE. The learner would acquire knowledge, skills and attitudes about the environment through the study of individual basic subjects of the secondary stage. Palmer & Neal (1996), the renowned researchers on EE in England and Scotland have suggested that planning for the inclusion of EE in curriculum needs to take account of the three inter-linked components like a) Education about the environment, b) Education for the environment and c) Education in or through the environment.

These three components of environmental education curriculum in diagrammatic form has been presented in Fig. 2.

According to this model

- Education about the environment has the purpose of developing knowledge and understanding about values and attitudes.
- Education for the environment encourages pupils to explore their personal response to and relationship with the environment and environmental issues. This is also linked to the development of attitudes and values, including elements of human understanding and behaviour necessary for the development of sustainable and caring use of the environment.
- Education in or through the environment as a resource for learning. It is a resource





**Fig. 2. Three Components of Environmental Education Curriculum**

that enables the development of a great deal of knowledge and understanding as well as skills of investigation and communication

If properly implemented, within this framework we identify three crucial elements of personal experience in the environment, the development of personal concern for the environment, and the taking of personal action in and on behalf of the environment

### **Environmental Education in Indian School Systems**

According to NCERT (1988), the school curriculum should attempt to create awareness in the pupil about environmental resources especially non-renewable resources and judicious use of it, about the ecological balance and man's relationship to the environment, about the different sources of energy and development of an eco-friendly energy use. EE in India should promote concept of protection of environment and prevention of pollution of land, air and water. It should highlight the interdependence of the material environment (litho-hydro and atmosphere) with that of biosphere (including plant, animals, microbes and human).

Consequently the environmental education in school curriculum has been included in different syllabi developed by different boards like CBSE, ICSE and State Boards of S.E. including WBSE. A comparison of the curricula of these boards indicated that the following pattern of EE has been recommended at the secondary level of school system

1. At the middle level, environmental study is not prescribed as a subject. But "Science as an integrated course (infusion model) is heavily based on the use of pupil's

day-to-day 'observation in the environments and includes topics like the balance of nature, population etc."

2. At the secondary level, the subject of science includes many topics concerning awareness and protection of environment

The center for Environment Education, India at Ahmedabad (CEE) is actively engaged in preparing children's environmental education in the school level. The CEE suggestion is 'EE at this stage cannot form a separate subject in the school syllabus but should be integrated with science, social science and other subjects'. The WBSE in recent years have decided to introduce a separate subject of Environmental study in the secondary level of study.

In conclusion it can be stated that the form of EE in the secondary stage of study should be adopted depending on the infra-structural facilities and availability of trained teachers. Of the two options, the infusion model or a separate course of environmental science, the world consensus is for the infusion model. NCERT in India also favours that by introducing and expanding the topics related to environment at the secondary stage. However, WBSE is planning for a separate course. Whatever be the form of study, the success and effective influence of EE on the pupils knowledge, skills and attitude will depend on the quality of teachers with comprehensive training in environmental education.

## References

- Palmer, J. & Neal, P. (1994) *The handbook of environmental education*. London: Routledge.
- UNESCO (1980) *Strategies for developing an environmental education curriculum*. Paris: UNESCO.
- UNESCO (1983) *Environmental education module for in service training of science teachers and supervisors of secondary schools*. Paris: UNESCO, Training Series-4.

Manuscript received on October 1, 2005

## ***Technology Education in Nigeria: Problems and Prospects in the New Millennium***

**RICHARD IRIKEFE OKORODUDU**

*This paper examined the nature of technology education in Nigeria problems and prospects in the new millennium Emphasis was laid on the nature of technology education and national policy on science and technology in Nigeria Application of technology in Nigerian classrooms in terms of modern computer hardware and software-assisted learning exists only at the dream stage Various constraints and prospects of technology educational growth and development were discussed The way forward was suggested to close the present digital divide arising from existing ignorance and inequity in the utilization of information and communication technological (ICT) devices in the 6-3-3-4-education system in Nigeria*

### **Introduction**

Technology education in Nigeria as it is in other countries of the world like the USA, Britain, France, Germany, Japan, to mention but a few has been identified as bedrock for national growth and development (Fafunwa, 1974 and Ukeje, 1997) For instance, a former Minister of Education in Nigeria, Fafunwa (1974 49) remarked “*We are living in a world where science and technology have become an integral part of the world culture and any country that overlooks this significant truism does so at its own peril*” In addition, Ukeje (1997) noted that since we are in a world of rapid and constant changes in a high technology and information age and an era of Internet super high ways either we pay massive, comprehensive, coordinated and sustained attention to education at all levels or we may be left perpetually behind moving from underdevelopment to developing and to non-developing Also Maduabum (1998) believes that science and technology education is paramount for the greatness and prosperity of any nation This simply suggests that modern developed and developing nations cannot afford to play down on the need to promote technology education for all and sundry

Arising from this background, it is expedient to examine the status of technology education in Nigeria in the new millennium For instance, what has been the reaction of the Nigerian Government and stakeholders of education to the dire need for expansion of science and technology as veritable instruments for national growth and development? What is the national policy on science and

technology in Nigeria? What is the nature and extent of technology application in Nigerian classrooms? What are the constraints and prospects of technology education in Nigeria? What is the way forward in the era of globalization and what role can the western world play in facilitating technological education in South nations in the 21st century? These questions would be addressed in the subsequent pages in this paper

### **The National Policy on Science and Technology Education in Nigeria**

In Nigeria the national policy on education clearly stipulates that science, technology and mathematics must be taught at all levels of education (Federal Government of Nigeria, 1998) According to Maduabum (1998: 288) this policy *“envisages an educational system that shall emphasize science at all levels and reorient the entire society towards scientific thinking in order to develop new technologies and adapt existing ones to improve societal well-being and security”* In order to accomplish the Nigerian philosophy on science and technology, specific national objectives of technical education were stipulated as follows

- Provision of trained manpower in applied science, technology and commerce at sub professional grades,
- Provision of the technical knowledge and vocational skills for agriculture, industrial, commercial and economic development,
- Provision of training and impart of the necessary skills leading to the production of craft-men and other skilled persons who will be entering and self-reliant,
- Provision of scientific knowledge to the improvement and solution of convenience for man, and
- Enabling young men and women come to have an intelligent understanding of the increasing complexity of technology

The simple fact that Nigeria has a national policy on science and technology education is a clear demonstration of a level of awareness of the benefit of technology The question we may wish to ask at this juncture is, what is the nature of technology education in Nigeria?

### **Nature of Technology Education in Nigeria**

The concept of technology has attracted several definitions Maduabum (1998) defined technology as referring to human capability at solving the practical needs of a society without necessarily having a full theoretical grasp of the principle relating to the utilized technology Technology is also defined as the design, production and operation to industry and commerce (Ivowi, 1998) Information technology according to Ivowi (1998) has advanced tremendously in the past years with the emerging technology associated with computers and communication satellites However, in practice what is the nature of technology education in Nigeria?

Figure 1. Technology Education Structure in Nigeria

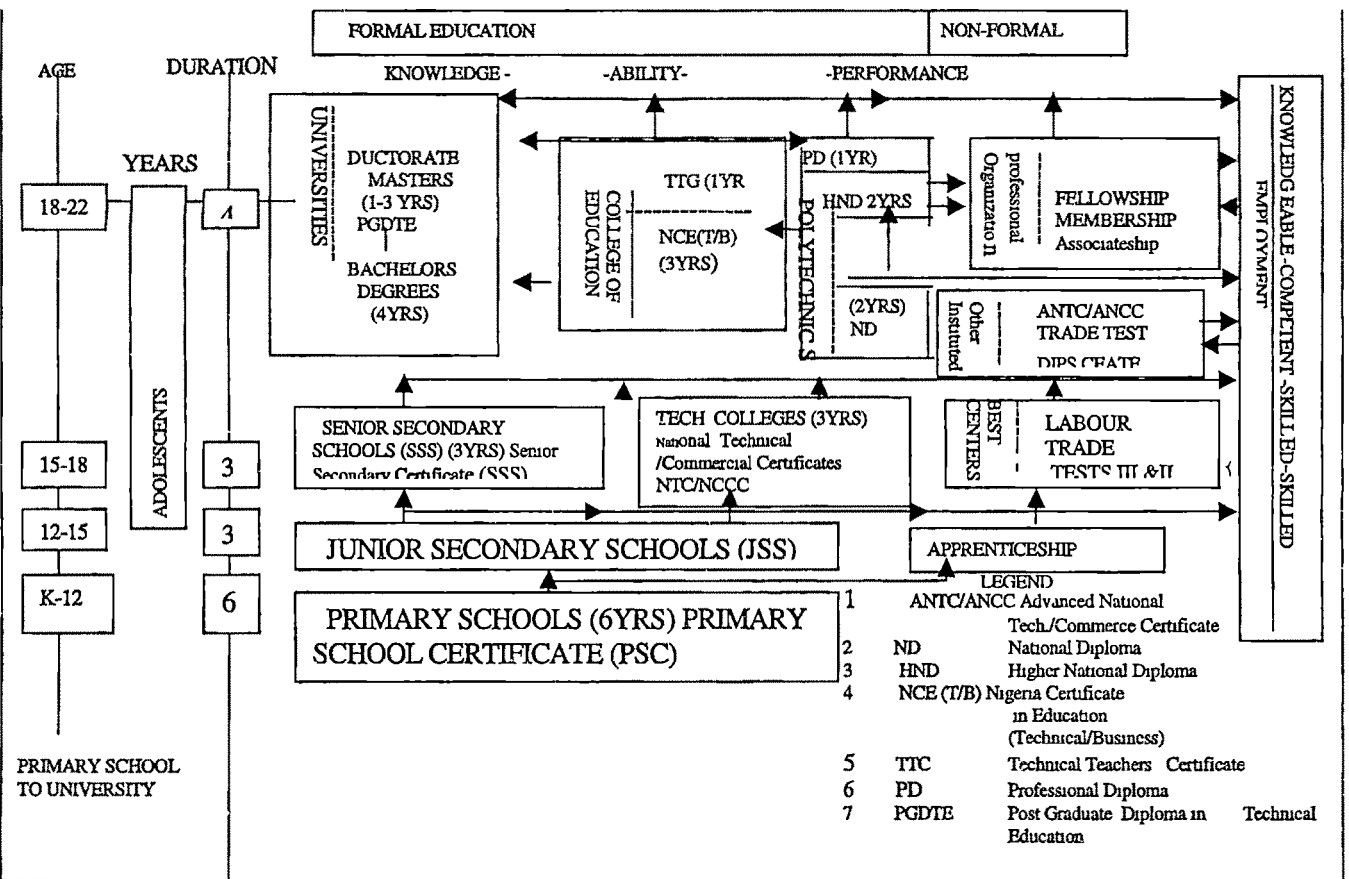


Fig 1 Technology Education Structure in Nigeria  
Source Ortafo, S O (1998 228)

In fact, talking about the nature of technology education in Nigeria, two major discernible patterns emerge. They are formal and non-formal technology education procedure. The formal technical and vocational education in Nigeria is provided in trade schools, occupational improvement centers, industrial schools, technical colleges, polytechnics and universities. The structure of Technology education in Nigeria can be diagrammatically as represented in Fig. 1.

It is clear from the structure in Figure 1 that there are two broad-based patterns of formal and non-formal technology education. The non-formal technology education begins with apprenticeship in the family system. For instance, various vocational and technological skills, pottery making skills, industrial casting and smothery skills, salt making skills, textile and cloth-weaving skills, mining skills, artistic and craft skills were largely promoted at the family settings in Nigeria (Okoradudu & Okorodudu, 2000; Obijole, 1999, and Suleiman, 1999). The non-formal technology education also includes the process of acquisition of skills through labor trade test III and II, trade test I, and diploma certificates. The products from these non-formal programs are able to transfer their skills to the formal education system. In other words, they are able to improve on their respective basic skills already acquired from home in the formal education system. On the other hand, the formal education is the type of knowledge, skills, and competence acquisition made in the formal school system.

As shown in Fig. 1, the formal process of knowledge, skills, and competence acquisition and development starts from the elementary school. The duration for the primary school education is six years, at the end of which a primary school certificate is normally awarded. The school leavers from the elementary institutions are made to proceed to the next level of three years of junior secondary school education. At the end of the program, the junior school certificate would be awarded. During this period of education, the basis for technological skills acquisition is further enhanced through pre-vocational courses. Some of these include introductory technology involving woodwork, metal work, electronics/basic electricity, and auto-mechanic. Other major skills acquisition learning also takes place in the form of craft which promotes basket weaving, clay modeling, pottery, Raffia making, bamboo furniture, black smithery, etc.

The individuals proceed to the senior secondary school (SSS) for another three years. At the end of the three years' program, successful candidates are awarded the senior school certificate (SSS). The successful candidates with five credits are able to proceed to the university for the undergraduate degree program. Thereafter higher degree program could be pursued at the Masters and Doctoral degree levels.

The polytechnics, technical colleges, the colleges of education also exist to absorb candidates from the senior secondary schools. These higher institutions have four and three years' duration for the polytechnics and colleges of education respectively. At the end of the 6-3-3-4 educational systems, the products are expected to have acquired an appreciable level of knowledge, competencies, skills and semi-skills in specific areas of human endeavour for their employment in the national work force.

### **Application of Technology in Nigerian Classrooms**

The Federal Government of Nigeria (1998) clearly stipulates that at the very early phase of the education system efforts must be made to inculcate an attitude of respect for and appreciation of the role of technology in society. In order to demonstrate government resolute principles in favor of technology education, the National Policy on Science and Technology further stated, "Government deplores the general public attitude which regards technical education as somewhat inferior to the other types of education (Federal government of Nigeria, 1998: 28). Nevertheless, the applications of technology in the classroom at primary schools, secondary and tertiary institutions have diverse outlooks. For instance, Oriafio (1998) noted that at the various educational sectors technical education and vocational training is highly supported by the national policy on education. At the foundation stage, that is, the pre-primary, it is expected that the Nigerian child, should be able to develop the spirit of enquiry and creativity through the exploration of nature and the learning of the rudiments of numbers, letters, shapes and forms. It is the national dream that the learning at this stage would stimulate a very meaningful background for the development of the child's inquisitiveness and creativity necessary for scientific computations and advancement in technology.

At the primary school level, basic technology is applied in the form of the use of traditional aids to learning. The introduction of computers into the Nigerian classrooms is still at the dream stage. Apparently, learning progress is largely by traditional methods. Most public primary schools lack not only computer hardware and software but also other essential facilities for promoting effective and efficient teaching learning.

However, at the secondary school level some frantic efforts through policy formulations at national and state government levels have been made. For example, Jegede & Owolabi (2005) noted

*During the 32nd ministerial council meeting of the Nigeria council on Education in 1987, the Federal government of Nigeria decided to introduce computer education in the nation's secondary school system. This was followed by the inauguration of the National Committee on Computer Education the same year.*

In fact, the committee was charged with the responsibility of planning for a dynamic policy on computer education and literacy in Nigeria as well as devising clear strategies and terminologies to be used by the Federal and State Government in introducing computer education (Jegede & Owolabi, 2005).

It should be noted that although these policy proclamations were favorably disposed to the introduction and utilization of computer education, nothing significant has actually been done at the nation's public secondary school system. According to Jegede & Owolabi (2005), there is a wide disparity between policy pronouncement and policy implementations in Nigeria. Apparently they stressed that the Minister for Science and Technology, Professor T. Isoun was mindful of the gap between policy proclamations and implementation process when he posited

*The formulation of an information and communication technology (ICT) policy constituted only about 20% of ICT solution for the Nigerian nation  
The remaining 80% lies with implementation*

This shows clearly that beyond the policy statements there are no computers in the Nigerian secondary public institutions. At best there are some few ones available in the private secondary institutions exclusively reserved for the children of the rich in the Nigerian school. In other words, this is a foundation for digital divide and scientific and technological disparity between the children of the rich and those of the poor in the Nigerian society.

At the tertiary institutions level, universities, polytechnics, colleges of education and technical schools, the story is not different. The nation's tertiary institutions do not have computers, hardware and software in the classrooms, as they are available in the higher institutions in the United States and other advanced countries. At best there are educational resource centers, audio-visual centers, radio, TV broadcasting that are established at the State and Federal levels (Ughamadu, 1998). However, UNESCO assisted in the establishment of the Audio-Visual Aids Unit at the Institute of Education, University of Ibadan, Ibadan in 1962. The same unit received materials and financial support from the United Kingdom Ministry of overseas developments, the Carnegie Corporation of New York and Canadian Universities overseas (Ughamadu, 1984).

In spite of global need for technology expansion, there are still no utilization of modem computers, power points, software, slide projectors, overhead projectors, films or video projectors, loud speakers, photographic cameras with accessories, etcetera, in the primary, secondary and tertiary institutions in Nigeria. What are the factors responsible for this deficiency? Is it that there is low awareness of the prospects of technology education in Nigeria? These two questions would be examined in the following pages.

#### **Problems and Prospects of Technology Educational Growth And Development.**

Although ignorance and lack of technical know-how constitute major blocks to the efficiency in technology education in Nigeria, the greatest has been the economic and development deficit condition. For example, Obanya (2002: 218) noted the following:

*Economic mismanagement, lack of good governance, weak fiscal discipline and inefficient government owned enterprises have inhibited growth. Nigeria has a poor economic record since the late 1970s, resulting in declining growth and increasing poverty. GNP per capita in 2000 was \$300. Over two thirds of the population live below the poverty line. Political instability, corruption, endemic violence, and high costs of doing business in Nigeria have discouraged private investment and undermined public confidence. Decades of neglect have led to a dilapidated and unreliable infrastructure and a sharp deterioration in health, education and other public services.*

From the above quotation, it is apparent that the observed deficiency in educational technology in the Nigerian classrooms is a reality. There were obstacles to growth and development as reflected in the above quotation is enormous. The presence



of a dysfunctional economy would not help to produce meaningful technology education in the Nigerian educational system. In specific terms, Aghotor (1998a: 234) noted that constraints of technology education in Nigeria include

- Inadequacy of technology education lecturer
- Decreasing students' interests in learning and increasing examination malpractices
- Industrial actions by lecturers and students unrest in higher institutions

Further obstacles to information and communication technology in the Nigerian classrooms (Aduwa-Ogiegbaen & Iyamu, 2005) include

- Lack of adequate storage facilities such as good classroom space where the ICT electronic equipments can be kept
- Lack of adequate knowledge and technical know-how for the maintenance and sustainability of ICT equipment in the Nigerian school system
- Ignorance arising from cultural prejudice and difficulty in adjusting to a world governed by information and communication technology
- Policy implementation inadequacies in Nigeria

#### **Prospects of Technology Education**

Generally, technology has been identified as a major process of increasing human performance in the educational system (Pittman, 2003). The values of technology according to Pittman (2003: 49) are enormous which include among other things

- Empowering people in a democracy as citizens by enabling them to express their unique talents, and enriching their lives through life long independent learning
- Making education and school more productive
- Giving instruction a more scientific base through extensive research capability
- Making teaching more powerful due to practical approach to teaching
- Making access to education equal

The prospects of technology in this era of globalization are in fact innumerable. Access to Internet in no small measure contributes to quality of research materials in the nations higher institutions. Today it is possible to browse the Internet and access materials, journals, books, etc. that are available in libraries in other parts of the world. Much progress in the economic, social, political and cultural endeavors, are being recorded as a result of the skeletal information and communication technological (ICT) services available in urban areas in Nigeria. Apparently, ICT is immensely required in all nations in this era of globalization to prevent isolation and hence promote the closing of digital divide among nations, between groups in terms of color, tribes or races as well as rich and poor in the society. In Nigeria, needless to say how much the banking and commercial institutions have gained by embracing the modern ICT facilities.

The educational sector therefore needs to improve on its efforts to maximize the benefits of technology education in various disciplines, administration and students services.

### **The Way Forward**

In this era of globalization no nation can afford to remain in the shores of ignorance for too long. Not being involved with the utilization of information and communication technology is likened to being in the utter darkness. Every nation either developed or developing should endeavor to close the gap in digital divide. These challenges are in two dimensions. First, the need for developed nations such as the United States of America, Britain, France, Germany, Japan, etc to ensure that all segments of their citizens embrace digital knowledge and its application is becoming paramount in multiracial communities. The way forward, therefore is that there should be equitable distribution of efforts towards making every citizen to appreciate not only technological advancement but also enhancement of their ability to utilize technological products, computer hardwares and software, internet facilities and so on.

In Nigeria, there is need for the Federal and State governments to reexamine the national policy on science and technology and their implementation strategies in the new millennium. For instance, Jegede & Owolabi (2005) observed that a gap exists between policy and practice. They believe that the current policy pronouncements are obsolete and need to be updated within the dynamic world of computers. It is necessary to revisit the national policy on science and technology and its implementation strategies.

The teachers in primary, secondary, and tertiary institutions need retraining as urgently as possible. There should be a nation-wide technological awareness for computing and reorientation. In the new millennium, tremendous efforts should be geared towards improving on teacher-students quality through the utilization of information and communication technology in the 6-3-3-4-education system. For instance, technology-assisted learning or instruction should be promoted at all levels in the Nigerian educational system. This is a major way of bridging the gap between the advanced world and the developing nations in digital education.

Digital education should be properly integrated in every discipline and at every level beginning with the pre-primary education (Aghotor, 1998b). This would be a good foundation for helping to establish the new technological culture of the global society.

The Federal government of Nigeria should allocate sufficient funds and attention to technology education through provision of retraining opportunities and provision of technological facilities in the classrooms. This is where the western world should try to assist in the form of manpower training efforts in modern technology. Exchange of academic staff in the higher institutions between the developed and developing nations should be promoted. Also of importance is that sabbatical opportunities be granted to university lecturers from developing countries so that they can have opportunity of retraining to acquire modern digital knowledge to enhance their research outfits. In addition, developed countries can also provide scholarship awards to assist in technology training and education of children from these impoverished South nations in global society. Furthermore, fellowship opportunities can be made available to professionals in the higher institutions of learning from these nations having lower technological opportunities,

in order to promote digital equity between the developed and developing nations. More importantly, developed countries like the USA, Britain, Japan, Germany, etc and/or UNESCO as well as other multinational organizations and philanthropic organizations can assist with the supply of computer hardware and software packages for use in the schools in these impoverished nations of Africa and Asia.

The dilapidated classrooms structures in the Nigerian educational system should be renovated. Adequate seats should also be provided as well as provision of an enabling environment for security of lives and properties. The good sense of technology education should be emphasized in all Nigerian communities.

The current situation of digital divide, ignorance and inadequacies calls for systematic attention of helping professionals. Therefore, counselors practicing in schools and communities should assist in creating awareness for the youths towards information and communication technology. In the primary, secondary and tertiary institutions counselors should promote awareness campaign towards the benefit of Internet and computers. In other words, computer assisted counseling is one way of enhancing awareness in the school system. Modern Counseling approaches through the utilization of Internet facilities will help to provide adequate information service to the clients. In the present system of global society, information dissemination is paramount for equitable distribution of knowledge, skills, political, economic, social, education and cultural development.

In the Nigerian society, the Counseling Association of Nigeria (CASSON) should help to promote technological and vocational awareness in the 6-3-3-4 educational systems. These services could be rendered through, vocational counseling, career counseling, career day/conference, and group counseling. Individual counseling procedure can also provide a good forum for assisting clients to embrace the new culture of computer world.

In conclusion, the global society is real only to the extent of optimum flow of information relating to the educational, political, economic, social, cultural, and religious changes in different parts of the world. No nation, therefore, can afford not to be part of the global society and yet get the best of living standards and awareness of up to date scientific and technological advancement in the modern world. Therefore, this paper posits that in the new millennium, all citizens in all nations as much as possible should escape digital alienation and scientific and technological ignorance in global society.

## References

- Aduwa-Ogiegbaen, S E & Iyamu, E O S (2005) Using information and communication technology in secondary schools in Nigeria: problems and prospects. *Educational Technology and Society*, 8 (1), 104-112.
- Azubuoke, N C (1997) The scientific and technological challenges in Africa in the year 2001: the road ahead. In Odusina, M O (Ed) *Educational challenges in Africa for the 21<sup>st</sup> century: the road ahead* (411-417). Lagos: Jas publishers.
- Aghotor, A N O (1998a) Declining standards of technology education in tertiary institution and the realization of vision 2010. In Oriafio, O S & Olubor, R O (Eds) *Advances in the field of education: the Nigerian experience* (Pp B 234-241). Benin City: Institute of Education, University of Benin.
- Aghotor, A N O (1998b) Creating technological awareness at the pre-primary education level. In Oriafio, O S & Olubor, R O (Eds) *Advances in the field of education: the Nigerian experience* (Pp 42-47). Benin: Institute of Education, University of Benin, Benin City, Nigeria.

- Fafunwa, B A (1974) A keynote address at the 15th Annual Conference of Science Teachers Associations of Nigeria cited in Azubuike, N C *The scientific and technological challenges in africa in the year 2001 the road ahead* In M O Odusina (Ed ), *Educational challenges in Africa for the 21st century the road ahead* (411-417) Lagos Jas publishers
- Federal Ministry of Education (1986) *National policy on science and technology* Lagos government Press
- Federal Government of Nigeria (1998) *National policy on education* Lagos Government Press
- Idumage, J A (2004) Computer training school, Port Harcourt *Nigerian Journal of Empirical Studies in Psychology and Education*, 1 (9), 172-178
- Igbafe, P (1988) The role of education technology in advancing vocational and technical education In Oriafio, O S & Olubor, R O (Eds ) *Advances in the education the Nigerian experience* (Pp 260-267) Benin City Institute of Education, University of Benin
- Ivovwi, U M O (1998) Advances in research and technology In Oriafio, O S & Olubor, R O (Eds ), *Advances in the field of education the Nigerian experience* (Pp 272-278) Benin City institute of Education, University of Benin
- Jegede, P O & Owolabi, J A (2005) Computer education in Nigerian secondary schools a gap between policy and practice *Meridian a middle school computer technology toward* 8 (1), 1-5 URL [Http www.ncsu.edu/meridian/sum2003/Nigeria/5.html](http://www.ncsu.edu/meridian/sum2003/Nigeria/5.html) Retrieved 6/ 18/ 2005
- Nwokedi, R E (1997) Science and technology education what trends in the 21st century In Odusina, M O (Ed ), *Educational challenges in Africa for the 21st Century the road ahead* (Pp 377-389) Lagos Jas-Publishers
- Onoja, S M (1997) Educational challenges in Africa for the 21st century the past, present and future roles of educational technology in the teaching and learning process in Nigeria In Odusina , M O (Ed) *Education challenges in Africa for the 21st century the road ahead* (Pp 399-419) Lagos Jas Publishers
- Obanya P (2002) *Revitalizing education in Africa* Ibadan Striling-Horden Publishers (Nig) Ltd
- Oriafio, S O (1998) Technical and vocational education in Nigeria an overview In Oriafio, O S & Olubor, R O (Eds ) *Advances in the field of education the Nigeria experience* (Pp 220-233) Benin City Institute of Education, University of Benin, Nigeria
- Ohanado, E S (1998) Technological innovative and their impacts on the education of the handicapped In O S Oriafio & R O Olubor, (Eds ), *Advances in the field of education, the Nigerian experiences* (PP 267-278) Benin City Institute of Education, University of Benin, Nigeria
- Obijoie, E F (1999) The place of vocational education in the 21st century teacher education programme in Nigeria *Teacher education I* (2) 80-85
- Pittman, J (2003) Empowering Individuals, schools, and communities In Solomon, G , Allen, N J & Resta, P (Eds ), *Towards digital equity bridging the divide in education* U S A Pearson Education group, Inc
- Okorodudu, R I & Okorodudu, G N (2000) Evolution of vocational and technological skills implications for effective education and vocational counselling *The Counsellor*, 18 (1), 227-238
- Suleiman, A (1999) Vocational and technical education in secondary schools *Knowledge Review-A Multidisciplinary Journal*, 1(2), 60-64
- Ughamadu, K A (1998) *Education technology concepts, principles and applications* Agbor Kmensuo Educational Publishers
- Ukeje, B O (1997) The education of teachers for new social order *The Nigerian Teacher*, 1, (1), 4-12

## *Decentralization in Education X-Rayed*

SUNIRMAL ROY

Mukundan M V (2004) *Education and decentralization a case study of India's Kerala state* Hong Kong Liaoning People's Publishing House

Nowadays there is no dearth of books on education. Yet, frankly speaking, quite a large number of them are nothing but the author's idiosyncratic view dished out in a more or less acceptable language. Few of them stand on the firm ground of hard facts painstakingly searched out. Here is a book which can claim the reader's appreciative nod because it stands on the bed-rock of solid facts systematically collected through scientific method. The book under review is shaped out of the author's doctoral research. The reader can, therefore, expect in it all the rigour of systematic collection of meaningful facts through careful and methodical ways, arranging and interpreting these facts to arrive at conclusions that enlighten the objectives of this research study. The study concerns the phenomenon of decentralization in the field of primary education in Kerala. The importance of studying decentralization especially in the field of primary education in India can be realised from the following

*Decentralization is one of the most widely-advocated reforms in public administration. This advocacy is based on the perceived advantages that decentralization as a process and instrument of development is supposed to bring. These alleged benefits include increased participation, responsiveness, and efficiency in government. The present study examines the effect of decentralization as a strategy for implementation on an important development programme in Kerala state. By focusing on the policies implemented at the primary education sector since 1996, the study evaluates whether the design of the Kerala decentralization programme contained the necessary control mechanisms for handling the political realities and programme objectives and criteria in order to increase the efficiency of the system.*

The book comprises eight chapters. The first one clarifies the background of the research problem along with the international, national and field level contexts. The researcher's motivation behind the research has been stated. The objectives and the research questions to provide direction to the study have been clearly set.

forth. The conceptual terms essentially relevant for the study such as 'decentralization', 'change', 'continuity' and 'policy' have been adequately defined. The multilevel framework adopted for the study has been explained. The significance of the study as well as the limitations therein have been clearly delineated. About the significance of the study the investigator states "*The decentralization programme introduced in Kerala emerged as a plan which covered all aspects of development including education*". Therefore, the study "*refers to the implementation of policies of education by the local level institutions, and continuity and changes of educational matters*". The main limitations of the study is that it focuses on only two districts (Kannur and Kasargod) and the purposively selected village *panchayats* in those districts.

The next three chapters, that is second, third and fourth, are devoted to rigorous review of relevant literature in order to clarify the conceptual background of the study. The second chapter specifically expounds the concepts of 'control', 'continuity', and 'change' which are very much related to 'decentralization'. The basic theme of study "*Among the most sensitive issues in deliberations associated with public administration are those of centralization or decentralization of powers. Decentralization refers to the extent to which authority has been passed down to various dispersed locations and provides local administrators with greater autonomy*". Next, the different aspects of decentralization as they are related to education have been discussed with supportive evidence from the write-up of numerous experts on the subject.

The third chapter, after presenting an account of historical, political and socio-economic background of India, discusses decentralization and related matters. It especially examines educational aspects vis-à-vis decentralized planning in education. "*It is based on the recent administrative and structural changes along with developmental policy brought in to Kerala's political system which is claimed to be an ideal type of decentralization at least by its proponents*".

The fourth chapter, discusses the status of the state of Kerala in India in terms of socio-political and economic progress as well as educational development especially in the field of primary education. It has been observed that "*the decentralization process in any society will have its immediate effect or at least repercussions on the educational aspects of that particular society. This is the aspect which this study traces out*". The process of democratic decentralization and the PCDP (People's Campaign for Decentralized Planning) which was launched in 1996, have been discussed with special stress.

The fifth chapter of the book explains in detail the methodology adopted for the study. The present study is an ex-post-facto qualitative research in which "between method triangulation" is employed for data analysis. The sampling method used for the multilevel comparative framework, details of the design as well as the multiple methods used for data collection, such as documentary analysis, interviews and questionnaire surveys, have all been clearly explained. "*The chapter, thus, provides the whole process of scientific enquiry carried out by the researcher for the collection and interpretation of authentic primary as well as secondary data*".

*from different sources ”*

The sixth chapter deals with one of the two sample districts, i.e. Kannur. It describes how data have been collected through multiple methods keeping in mind the research questions as well as the objective of the study. It also describes analysis and interpretation of data collected from the first sample district.

The seventh chapter describes how data have been collected from the second sample district, Kasargod, with respect to the research questions and objectives. It also presents analysis and interpretation of data collected from the second sample district.

The eighth or the last chapter summarises the whole process of investigation. It presents a comparative analysis of data collected from two sample districts and thereby brings out the true picture of educational continuity and change vis-à-vis decentralization in the field of primary education in the two districts of Kerala. This may provide a logical basis for looking into the status of decentralization in other districts and consequently in the whole state of Kerala. The chapter also mentions the implications of this research in educational development in Kerala in particular and India in general, pointing out the need and possibility of further research into decentralization in primary education.

The conclusions of the study bring out certain facts about the process of decentralization in primary education in Kerala which may enlighten and help educational development throughout the country. Some of the very pertinent observations in this respect are as follows:

- The Kerala experience depicts negative and neutral aspects as regards the educational continuity and changes therein.
- The national and state governments which are steered by political party elites often misuse the sovereign powers or control aspects of the nation/state.
- The Local Self Government Institutions (LSGIs) were not properly empowered to become independent decision makers, but rather they remained as or continued to be the executing bodies of state and national level political decisions.
- Instead of system thinking for the people, and the external experts convincing them with ready made agendas and developmental programmes, each individual should be offered a real space to think, question and act for common purposes. Then only ideals intended with well sounding objectives get life, let alone the ideal of decentralized control.
- The policy designers at the local level have to think about altering the local environment to enable the different categories of stakeholders including teachers, administrators, students, and community members to achieve the general objectives of primary education. The harmonization between different stakeholders should be maintained through constant critique, evaluation, analysis and feedback from each locality.

— The educational decentralization experiences within a decentralized system in Kerala question the imperative that political will is more important in executing decentralization reforms. It is not only this will that counts, but a proper understanding on the part of the political decision makers about the complex set of organizational processes within the state-local continuum of governments.

The present volume draws attention to certain crucial aspects of educational decentralization in Kerala. With the 73<sup>rd</sup> and 74<sup>th</sup> Amendments of the constitution, in order to speed up democratic decentralization, the system of local self-government started being stressed in 1992. A three tier system of Local Self Government Institutions (LSGIs) at Village, Block and District levels was established for devolution of powers. By 1995 decentralized planning and management of education got a new fillip. In 1996 in the state of Kerala the process of decentralization was further revitalized through launching of the 'People's Campaign for Decentralized Planning (PCDP)' which covered all aspects of development including education. But, frankly speaking, these steps did not succeed as impetus for change in control of primary education in that state. In fact, the situation now seems to be pretty paradoxical. On the one hand, emphasis has been put on decentralization and micro-level planning, and on the other, a large number of programmes, initiated by the Centre, have been launched. Not only this, quite a large number of educational programmes, funded by external agencies, are on the run in this country. In a way the present situation is that in India, we are trying to carry out decentralized district level plans of primary education which are sponsored centrally or by some external agencies. Thus, it may be noted that decentralized planning and management of education is one of the means to organize local participation and involvement of the people in the educational process. Exercises initiated for decentralized planning at the micro-level bring in better efficiency and accountability of the institutions involved in the process, with the effective strategy of functioning being left to the people participating in the programme.

The foregoing discussion as well as a close look at the conclusions of the study as mentioned earlier, reveal certain pertinent and important facts about the educational realities in primary education existing in Kerala in particular and in all other states of India in general. By analyzing the problems and issues of decentralization as related to education, the author of the volume has done a great service to the process organizing primary education.

The book under review stands out as a valuable and timely contribution as it researches into decentralization which is one of the major hurdles in organizing primary education in a developing country like India. No doubt, the book would prove to be very useful to policy makers and planners, teachers, students and researchers who are engaged in analyzing the dynamics of educational administration, the findings of the study would surely serve as a valuable guide for policy making, planning and management of development programmes, particularly of education at the micro-level.



## ***Notes on Contributors***

L A ADESANYA is on the Faculty of Education, Olabisi Onabanjo University, Ago-Iwoye, Nigeria *Correspondence As given here, E-mail abekeadesanya@yahoo com*

TAGHI JABBARIFAR is a lecturer at the University of Yazd, Iran At present, he is a doctoral student in the Department of Education, University of Pune *Correspondence Room No 21, International Boys Hostel, University of Pune, Pune-411007, Maharashtra, [www.jabbaree2000@yahoo.com](mailto:www.jabbaree2000@yahoo.com)*

JAYANTA METE is a reader in the Department of Education, Faculty of Education, University of Kalyani, Kalyani *Correspondence Department of Education, Faculty of Education, University of Kalyani, Kalyani, Nadia-741235, West Bengal E-mail jayanta\_135@yahoo co in*

RICHARD IRIKFE OKORODUDU is a senior lecturer in the Department of Counseling Psychology, Faculty of Education, Delta State University, P M B 1, Abraka, Nigeria *Correspondence The same as given here E-mail okororich@yahoo com*

SUNIRMAL ROY is a retired former head of the Centre for Advanced Study in Education, Faculty of Education and Psychology, M S University of Baroda *Correspondence B-4/12, Urmī Apartment, Fatehgunj, Vadodara-390 001*

PARAMA SAMADDAR is a post-graduate student in the Department of Education, Faculty of Education, University of Kalyani, Kalyani *Correspondence Department of Education, Faculty of Education, University of Kalyani, Kalyani, Nadia-741235, West Bengal*

LOUIS M SMITH is Emeritus professor of education at the Washington University, St Louis, MO, USA Over the course of his distinguished career, he has authored numerous articles and half dozen books Among the latter are the well known—*Complexities of an urban classroom (with W Geoffrey)*, *Innovation and change in schooling and the most recent one, Urban parent education Dilemmas and revolutions (with Wilma M Wells)* *Correspondence 921, Lanyard Lane, Kirkwood, St Louis, MO, 63122-2552, U S A , E-mail [lmsmith@artsci.wustl.edu](mailto:lmsmith@artsci.wustl.edu).*

PREETI VERMA is a reader in the Centre of Special Education, S N D T Women's University, Juhu Campus, Mumbai *Correspondence 1803-Dheeraj, Gaurav, Heights Tower I 'A' Wing, New Link Road, Adarsh Nagar, Behind-Hundai Showroom, Andheri, Mumbai-400053, Maharashtra*

### **Corrigendum**

We regret the error committed in the bio-data of V THANIKACHALAM Vol 21, No 4, (October 2005) Correction is as follows

‘ The National Institute of Technical Teachers Unit in Chennai He was a Fulbright Scholar and acted as a consultant to the World Bank and UNICEF’, should be read as ‘ *The National Institute of Technical Teachers Training and Research in Chennai He was a Fulbright scholar in 1988 and acted as a consultant to the World Bank-DANIDA-CMA-HRD Project for Cement Industries* ’

(Continued from the facing page)

V Two copies of the manuscript should be sent for editorial review

VI The title of the article and headings should be typed in the Title mode, i.e. capital and small letters (upper/lower cases), with major words beginning with capitals. Do not type in all capitals. Simply put, do not format the paper. Indicate the headings by writing—Heading 1 (first order), 2 (second order) and 3 (third order) and so on

VII Type each table and draw each figure on a separate page. Refer to each of them in numerical order in the text as Table 1, etc. Prepare tables without vertical lines. The caption of figure should be under it and not above as done for Table

VIII From the year 2005, we would follow the APA style *in toto*. Arrange References in the alphabetical order. For complete information refer to the MS Office Bibliography (wps) section. Examples are reproduced below for reference. Notes should be sparingly used and should be marked in the text. They should be numbered and inserted as footnotes for the whole article

#### Examples

A book with one author—Zambroski, R. (1959) *Sarah Akhtar: a biography*. New York: Five Lakes Publishing

A book with two authors—Abbar, A. & K. Hightower (2000) *Photographic essays of the end of century*. Atlanta: Lakes & Sons

A book with an editor—Chor, A. (Ed.) (1991) *Writing clearly: bullets, white space and common sense*. New York: Scootney Publishing

A translation of a book—Ben-Sachar, I. (1939) *Nunummy nibh* (J. Tippet and C. Polard, trans.). Boston: Jean-Paul Deloria

An anonymous book—*The Chicago manual of style: fourteenth edition* (1993). Chicago: The University of Chicago Press

A later edition of a book—Cooper, S. (1988) *Computer graphics* (new revised edition). Seattle: Litware, Inc.

A work in more than one volume—Greenberg, R. (1961) *Myth in children's literature* (Vols. 1-2). Boston: Ramona Publishing

A signed article in a journal—Con, A. (1984) The effect of pesticides on air quality. *Consolidated Messenger*, 20, 44-60

A signed article in a monthly magazine—Shelly, D. B. (1994) Hardware innovations. *Awesome Computers*, January 1995, pp. 14-17

A signed article in a daily newspaper—Mughal, S. (1994, December 27) Speculation and development. *Island hopper news*, Section D, p. 1

*If information is missing in the reference, (?) will be inserted in the published paper.*

IX. No correspondence regarding acknowledgement/acceptance/rejection/publication will be entertained through any means—mail, e-mail, fax, etc. unless adequate postal stamps (in the case of Indian authors) and international postal coupons (in the case of foreign authors) are enclosed along with the paper. If the contributor does not receive any communication from us within six months, the contribution should be considered as rejected.

X. A total of five offprints will be supplied to the authors (two to the foreign authors) free of charge. If the issue and offprints are not received within 15 days (a month or more in the case of foreign authors) after the release of the Journal, then an inquiry may be made to the Secretary (not to the Editor-In-Chief), SERD, 46, Harinagar, P.O. Race Course, Vadodra-390007. In the case of loss, these will be supplied to the author only if the extra copies are available.

## PERSPECTIVES IN EDUCATION

### Information for Contributors

I Manuscripts for publication that have not been published elsewhere, all correspondence regarding papers and books for review should be submitted to the **Editor-in-Chief, Perspectives in Education, 76, Kshitij, Pritam Society No. 1, BHARUCH-392001, Gujarat, India** Phone/Fax (91-02642) 229536 [Fax operative only IST 9 00 A M to 1 00 P M & 5 00 P M to 9 00 P M International users should drop "0" from 02642], E-mail [prafulchandra@sancharnet.in](mailto:prafulchandra@sancharnet.in) and [pnjpdave@yahoo.com](mailto:pnjpdave@yahoo.com)

II It is the editorial policy of the Journal to encourage discussions in an inter-disciplinary perspective on educational problems and policies, especially based on experiences in the Third World

III Material to be considered for publication in the Journal should belong largely to one of the following categories of papers and articles on education

- (A) Issues and Trends
  - (a) Essays—theoretical or empirical studies
  - (b) View points
  - (c) Review articles
- (B) Research
  - Reports of research studies
  - (A + B—Not to exceed 3000 words)
- (C) Comments and Criticisms
  - Critiques of articles published in the Journal
  - and rejoinders by the authors
  - (Not to exceed 2000 words)
- (D) Communications
  - Brief notes on educational policies, problems
  - and practices in Third World countries
  - (Not to exceed 2000 words)
- (E) Reviews
  - Brief critical reviews of books and articles
  - (Not to exceed 2000 words)

IV Manuscripts should be typed double spaced (including quotations, foot-notes and references) on one side of heavy white 22 x 29 cms standard paper with ample margins It should include on a separate page an abstract of 100 to 150 words and a short biographical resume of the author (and all coauthors, if any) giving names, office/home addresses along with e-mail addresses, positions, degrees, institutions and interests If the papers are sent through e-mail, they should be in the Text Format without any formatting of style, in size 10 with Auto leading, preferably in Times New Roman type Do not insert tables and figures in the text **Do not send floppy.** See also VII and XI below

*(Continued on the facing page)*

## American People Oppose High-stakes Uses of Standardised Tests

The latest (Phi Delta) Kappan poll results show that people in the U S oppose the high-stakes uses of standardized tests, fear the educational damage caused by high-stakes uses, and increasingly disagree with the test-based school "reform" strategy embedded in the No Child Left Behind (NCLB) law. On NCLB, the summary might be, TO KNOW IT IS TO DISLIKE IT (upper case supplied)

\* Slightly more than half the respondents said they knew enough about NCLB to have an opinion on it, of those, they were split 28%-27% favorable-unfavorable. The unfavorable vote has grown from 13 to 27 percent in three years while the favorable vote has grown from 18 to 28. Among those who say they have a great deal of knowledge of NCLB, 57% view it unfavorably and only 36% view it favorably.

\* By a two-one margin, people believe a single test cannot provide a "fair picture of whether or not a school needs improvement." Again, the more people know, the more they subscribe to this view.

By a 4:1 ratio, people conclude that using tests only in reading and math will not provide a fair picture. And by nearly 5:1, the respondents expressed concern that the focus on reading and math tests "will mean less emphasis on art, music, history, and other subjects."

\* Also by a nearly 5:1 ratio, parents said that if their child is in a school identified for improvement, they would rather improve the school than transfer to another school. Respondents were split on whether to blame the school or the law if the school does not make adequate yearly progress, but among those indicating they know a great deal about the law, 3/5 would blame the law. By an overwhelming majority of greater than 5:1, respondents favor measuring a school by growth rather than the fixed percentages passing that NCLB requires.

\* On high-stakes testing, 58 percent of respondents agree that high stakes cause teaching to the test. More than half those polled say that if there is teaching to the test, that is a "bad thing."

There were no questions about using tests for graduation or grade promotion. The public was split on whether "one of the measurements" of teachers' or principals' quality should be student test scores, with half in favor and slightly few opposed (52 to 44 for teachers, 50 to 46 for principals).

They seem to support the use of "achievement testing," with 40% saying there is 'about the right amount' and 17% indicating there is not enough. However, the share of those saying there is too much testing has increased to 36% from 32% last year.

\* One question addressed educating non-English-speaking students. Three in five, up from 46% in 1993, believe students should learn English before enrolling in regular classes, while those supporting native language instruction declined from 27 to 16 percent. One in 5 (down from 1 in 4) say students should be taught English at their parents' expense.

\* On the most important issue facing schools, 4 responses were noted, though they added up to only half the responses. The top two: 20% said lack of money and 11% said overcrowded schools (which presumably will require money to solve). Lack of discipline (10) and use of drugs (9) are the other two listed.

— Monty Neill, Ed D, Co-Executive Director, FairTest, MA,  
USA [monty@fairtest.org](mailto:monty@fairtest.org), <http://www.fairtest.org>, August 26, 2005

ISSN 0970-1575

# **PERSPECTIVES IN EDUCATION**

**VOLUME 22 NUMBER 2  
APRIL 2006**



**a journal of the  
Society For Educational  
Research and Development**

# PERSPECTIVES IN EDUCATION

## **Founder Editor**

MB BUCH

## **Editor-In-Chief**

PN DAVE

## **Editorial and Publication Management**

PILOO BUCH

GR SUDAME

## **Editorial Board**

LOUIS M SMITH

Emeritus Professor  
Washington University  
St Louis, MO , U S A

MARK BRAY

International Institute of  
Educational Planning, UNESCO  
Paris, France

CHINEDUM MORDI

Institute of Education  
Delta State University,  
Abraka, Nigeria

MARMAR MUKHOPADHYAY

National Institute of Educational  
Planning and Administration  
New Delhi

R GOVINDA

National Institute of Educational  
Planning and Administration  
New Delhi

S B MENON

Department of Education  
University of Delhi  
New Delhi

K GOPAL

Retd Professor of Sociology  
C C S University, Meerut  
Bharuch

D KUMARAN

Department of Education  
University of Madras  
Chennai

*Perspectives in Education* is a journal of the Society for Educational Research and Development published quarterly every January, April, July and October, in one volume of four issues per year. It aims at providing an international forum for discussions on problems of education. The basic policy of the Journal is to encourage an interdisciplinary approach to understanding educational phenomena. It is also the policy of the Journal to give priority to dissemination of ideas, innovative practices and research findings concerning education in the Third World.

**Subscription** Rs 170 00 per volume in India, US \$ 40 00 per volume in other countries, Rs 45 00 per issue in India, US \$ 10 00 per issue in other countries

**Editorial Correspondence**, including books for review, should be addressed to the Editor-in-Chief, *Perspectives in Education*, 76, Kshiti, Pritam Society No 1, Bharuch-392001, Gujarat, India. Phone/ Fax (91-02642) 229536, Fax operative only IST 9 00 A M to 1 00 P M & 5 00 P M to 9 00 P M. International users should drop '0' from ISD code 02642.

E-mail [prafulchandra@sancharnet.in](mailto:prafulchandra@sancharnet.in), [pnjpdave@yahoo.com](mailto:pnjpdave@yahoo.com)

**Business Correspondence**, including orders and remittances relating to subscriptions, advertisement, back numbers and offprints, should be sent to the Secretary, Society for Educational Research and Development, 46 Harinagar Society, P O Race Course, Vadodara-390007, India.

The points of view, facts and opinions expressed in the *Perspectives in Education* are those of the authors and do not necessarily coincide with the positions of the Society for Educational Research and Development.

©2006, Society for Educational Research and Development

Patte  
13.6.06

# PERSPECTIVES IN EDUCATION

Volume 22 Number 2  
April 2006

CONTENTS	65
NOTES ON CONTRIBUTORS	66
EDITORIAL	Shedding the Ideological Burden from Indian Education 67
GUEST EDITORIAL	
<i>Louis M. Smith</i>	Technology, Religion, and Sex Education A View from Abroad 69
ISSUES AND TRENDS	
<i>Louis M. Smith</i>	The Conception of Reflective Practice 72
<i>S. Sridhar</i>	'Value-added' Indicator for Indirect 91
<i>K. Chandrasekaran</i>	Assessment of Productivity in an Engineering College
<i>A. H. Sequeira</i>	
<i>Rainu Gupta</i>	Quality Concerns in Education at Different Stages and Its Commercialisation 98
RESEARCH	
<i>Swati Patra</i>	Relationship between Reading Comprehension and Mathematics Achievement of English and Hindi Language Medium Schools 106
<i>Swati Khatri</i>	
<i>Iwhiwhu Enemute Basil Akporhonor</i>	Use of Internet Resources A Case Study of a Nigerian University 115
<i>Blessing Amina</i>	
<i>Obaro A. Mordecai</i>	
BOOK REVIEW	
<i>K. Gopal</i>	Unfulfilled Commitments of Developing Countries to Achieving EFA 123
PUBLICATIONS RECEIVED	90

Perspectives in Education

2006, Vol 22, No 2

### ***Notes on Contributors***

AKPORHONOR BLESSING AMINA is a lecturer in the Department of Library and Information Science Delta State University, Abraka, Nigeria *Correspondence Same as given, E-mail bakporhonor@yahoo.com*

IWHIWHU ENEMUTE BASIL is a lecturer in the Department of Library and Information Science, Delta State University, Abraka, Nigeria *Correspondence Same as given, E-Mail ofegab@yahoo.com*

K CHANDRASEKARAN is a professor in the Department of Computer Science at National Institute of Technology Karnataka, Surathkal His main interests are knowledge management, knowledge networks and IT-enabled services *Correspondence Dept of Computer Science, National Institute of Technology Karnataka, Surathkal, Srinivasnagar PO Mangalore 575025, India, E-mail kch@nitk.ac.in*

K GOPAL is a retired professor of sociology from C C S University, Meerut He has several books and papers to his credit His areas of interests are Pathology of education and sociology of religion *Correspondence 601, Kunj River View Apts, Maktampur, Bharuch-392002, E-mail dr\_k\_gopal@yahoo.co.in*

RAINU GUPTA is a senior lecturer in education at Hindu College of Education, Sonapat-131001, Haryana Her areas of research consist of evaluation system, learning styles, teacher education and education systems *Correspondence As given here, E-mail poo\_mausam@yahoo.com*

SWATI KHATRI is a lecturer in Kamla Nehru College, Bhopal *Correspondence Same as given*

OBARO A MORDECAI is a research student in the Department of Library and Information Science, Delta State University, Abraka, Nigeria *Correspondence Same as given*

SWATI PATRA is a lecturer in education at Regional Institute of Education, Mysore Her main interests comprise educational psychology and guidance & counseling *Correspondence Regional Institute of Education, Manasa Gangotri, Mysore-570006, Karnataka, E-mail swati\_patra@yahoo.co.in*

A H SEQUEIRA is an assistant professor in the Department of Humanities and Social Sciences (HSS), National Institute of Technology Karnataka, Surathkal He is currently head of the Department of HSS and holding additional charge of Registrar of the Institute His main interests are Productivity studies, industrial management, educational technology and entrepreneurship development *Correspondence Dept of Humanities and Social Sciences, National Institute of Technology Karnataka, Surathkal, Srinivasnagar, PO Mangalore 575025, India, Email aloysius@nitk.ac.in*

LOUIS M SMITH is Emeritus professor of education at the Washington University, St Louis, MO, USA Over the course of his distinguished career, he has authored numerous articles and half dozen books Among the latter are the well known—Complexities of an urban classroom (with W Geoffrey), Innovation and change in schooling and the most recent one, Urban parent education Dilemmas and revolutions (with Wilma M Wells) *Correspondence 921, Lanyard Lane, Kirkwood, St Louis, MO, 63122-2552, U S A, E-mail lmsmith@artsci.wustl.edu*

S SRIDHAR is an assistant professor in Mining Engineering at National Institute of Technology Karnataka, Surathkal He is currently pursuing research in the field of higher technical education, with focus on teaching effectiveness and research productivity His main interests are integrating engineering and management techniques in the areas of higher education and human resource development *Correspondence Dept of Mining Engineering, National Institute of Technology Karnataka, Surathkal, Srinivasnagar PO Mangalore 575025, India, E-mail sahyadri2020@yahoo.co.in*



## *Shedding the Ideological Burden from Indian Education*

In our editorials, we have been raising issues relating to adverse effects of dogmatic ideas on learning of children whether they originate in home, school or formal and non-formal establishments involved in formulating policies in school education. We have referred to them euphemistically as 'red', 'green', 'saffron' or 'white' ideologies. We also have questioned the growing tendency of a class of political scholars heading governmental institutes/organisations to become willing partners in helping the political class to implement ideologically slant policies, at times at odds with the Constitutional obligations.

Being a melting pot of multitude of migrating tribes time immemorial and, thereafter, a heaven for invaders of different faiths, it was but natural that India evolved as a nation state of multi-racial, multi-ethnic and multi-religious peoples. Historically, for long we have been fragmented states ruled by big or small warlords. It is only after independence, the concept of nation state India, comprising mainly linguistically divided states, has emerged, which is still in the critical process of evolving. Doubtless, it has been truly a nostalgic journey of nationhood—a democratic republic that indeed requires tender nurturing.

The present polity indicates that religio-political ideologies have been clustered into two large blocks, namely secular (meaning roughly non-religious) and non-secular (meaning religious), though different, primarily caste-based political groups permeate both of them. They sarcastically referred to the other's ideology as 'pseudo'. One would wish that these ideologies would have confined to socio-political domains and not affected other sectors, especially education. Democracies all over the world have gradually separated themselves from the iron grip of religion or religious establishments and have framed Constitutions, which forbid the governance on the basis of not only religion but also discrimination on the basis of race, caste, gender and ethnicity. The slogan of equal opportunity or equity is not thus mere words, they are sacred commitments to freedom and protection of the citizens by those whom they have elected with deep trust.

However, for the reasons stated above, as a result of the process of evolution, which virtually failed to integrate people as one composite block, we have obtained this blurred dichotomy of ideologies. It amounts to—almost—keeping aside the Constitutional obligations by the ruling class and perpetuating one's own ideology. If the 'reds' are riding the governing elephant, they try to trample the rights of non-reds, if the saffronites have the '*ankush*' in their hands (control), they invariably, with vengeance, try to change the course of education that has been established, by and large, on the basis of the Indian Constitution or make concerted efforts to amend it to suit their own long-

term goal(s) This tug of war has been adversely affecting the growth and development of education That non-governmental shadowy religious groups have been influencing the course of education from the offstage is so obvious that even a lame excuse is not offered to hide their partisan intentions The heart of the matter is that each one is totally convinced of its righteousness and vociferously accuse the other of harming the interest of the nation

Due to such a scenario, we have been witnessing sudden and, most of the times, uncalled for changes in the school curriculum Each new government packs the committees with those who are their sympathizers, claiming the sole right of understanding the Constitutional obligations or what is good (quality) learning for children

We have lamented the marginalisation of professionals in the process of development of the school curriculum in India That the development of school curriculum is an intricate educational process and should be kept out of partisan considerations does not seem to cut any ice at any level Unfortunately, the professional educationists seem to have preferred to align with one or the other religio-political group or resigned to accept the fact that they have no role to play After 56 years of independence, there has not evolved any professional education association that can challenge the claims of official organs (mouthpieces?) of the superiority of the new curriculum over the old one(s) No body cares to taste the underlying assumptions of such a vital exercise scientifically It is always 'us' versus 'them', a highly charged opinionated fight for or against It is because our state organs, though wanting an autonomous status, have never gone about the development and monitoring of the school curriculum empirically Simply put, we neither have any benchmark data of achievements of pupils at any stage nor successive periodical empirical data for comparing/arriving at the conclusion whether a curriculum has achieved its stated goals and/or has done better or poorer than the previous ones That this is the only way to convince a layman and expert alike has not been lost to Japan is evident from the recent statement of Shigenori Yano, Director-General, National Institute for Educational Research, Tokyo, Japan (*NIER Newsletter*, Vol 37, November 2005) We quote

*The new Courses of Study in Japan were implemented in 2002 and 2003 against a background of strong criticism (bold fonts supplied) which alleged that they would bring about a drop in academic ability among Japanese children NIER carried out a nationwide academic ability test, based on the newly implemented Courses of Study, with the aim of getting a firm grasp of the current level of academic ability among school pupils The results were published in April 2005 When we compared the results of this test with results obtained when the previous Courses of Study were in force, we found that overall results showed an improvement over the previous ones due in large measure to the outstanding efforts that class teachers had made to ensure acceptance of the new Courses of Study And at the same time, the results can certainly be adduced in support of the view that the Courses of Study have not in themselves brought any reduction in academic ability (bold fonts supplied)*

We believe, rather strongly, this is what is expected from our state organs and this is the way a process of change should be carried out Nonetheless, who is listening?

## *Technology, Religion and Sex Education: A View from Abroad*

LOUIS M. SMITH

*These comments are in response to Praful Dave's editorial in the October 2005 issue of Perspectives in Education (PIE). Members of the Rodin Group, an informal group, mostly retired or partially retired individuals, who meet once a week for coffee and bagels at Einstein's Bagelry in Kirkwood, MO, contributed to this response.*

### **Background**

When I first read Praful Dave's editorial, I was struck by some differences in the educational worlds of India and America. I took copies of the editorial to an informal group I meet with once a week in Kirkwood, Missouri for coffee and bagels. We vary in age between about 60 and 80. About half of the groups are retired teachers or administrators in local schools—elementary, secondary and university. The other half are involved citizens in the schools. Our conversations are chaotic, freewheeling affairs. I gave them copies of the editorial and initiated the conversation. Out of that brief discussion I argued for further e-mail comments and meetings, if any were interested.

### **The Editorial—and Beyond**

The key concepts in the PIE editorial are technology, religion, sex education, and a platform for discussion. I believe that Praful makes too much of computers and the Internet as educational innovations. My initial reaction is that they are only—although powerful beyond belief—elaborations of books and libraries. Several centuries ago Gutenberg opened the world to cheaply printed ideas. In the last century, Andrew Carnegie, the Scottish American steel manufacturer, gave millions of dollars to establish some 2500 libraries, mostly in America, but around the world as well. Local communities now had to decide what books to buy and who should be able to read them. Censorship, book banning, and even book burning, as in Nazi Germany in the 1930s, are issues of worldwide concern. In America, our Constitution contains an article providing for free speech. Defining “free” and “speech” has a 200-year history in American politics and law. Organizations, such as the American Civil Liberties Union (ACLU), have appeared on the scene. Some churches among other groups have developed lists of banned books. Controversies are everywhere. In my view computers and the Internet are “just” special cases of these issues. Radio and television have their own histories as well regarding the nature and practice of free speech. We have 24-hour a-day news, seven days a week. Cable TV channels carry pornographic films every day, including Sunday.

Different people worship different things. In short, American society is in flux, in conflict and in efforts to sort out itself. Some citizens are happy with all this. Others are not.

In America “clean information” is almost impossible to define. In my view the most powerful resolution of this issue is freedom of speech and expression. “Bad” ideas are put to the test in competition with other ideas. Each citizen decides. The problem is especially difficult with underage children. The high schools with youngsters from 14 to 18 become what some of us would call “practical situations,” places where no absolute formal rules apply. Administrators, teachers, students, and parents must deal with the complex, the idiosyncratic, the unique, the values in conflict, and the uncertain. The constitution, laws, and court decisions provide rough guidelines.

Religion and sex education become entangled in interesting ways in American schools. First and perhaps most important, “separation of church and state” is built into our constitutional history. But, as they say, “the devil is in the details.” Tax monies go to the public schools, and state laws require children from roughly six to eighteen years to attend school. Parents can elect to send their children to private schools— independent, Catholic, Protestant, Jewish, or Evangelical Christian Academies, but they still must pay taxes for the local public schools. Hence a huge amount of conflict is generated. The locally elected school boards, still responsive to state and federal law, make many decisions regarding appointments of school administrators and teachers and issues of curriculum. An illustration from my local school, Kirkwood High School, occurred several years ago. The high school newspaper, the *Kirkwood Call*, mostly controlled by the student editors and reporters, but under supervision of a faulty member, decided to accept an ad from *Planned Parenthood*, a liberal, national group supporting women’s right to choose. The title of the ad read “It’s not enough to ‘just say no.’ Say KNOW.” That may seem straightforward and bland, but it implicitly speaks of abstinence in sexual relations and abortion as an option within pregnancy. A group of parents and citizens with strong conservative religious views vigorously objected. They were offered a chance to publish an opposing ad, an opportunity they refused initially. Later a group called *Birtheright*, a religious counseling group opposing abortion, did run an ad. Still, the distraught citizens appealed to the principal, then the superintendent of schools, and finally to the school board. The board called a community meeting in which each board member gave his or her views and vote. They were unanimous in supporting the students. On the way out of the meeting room, one citizen commented, “Wait until April,” when the next school board election would occur. For some a victory for free speech! For others a loss of parental rights! All in all the controversy took a full year to play out.

On another occasion, debate occurred in Kirkwood over whether creation science or as it is now called, intelligent design, must be taught in the high school biology classes as well as evolution. The high school teachers of science registered their view. The key issue was whether “intelligent design” was religion and not science. As religion it could not be taught in the public schools supported by local, state, and federal taxes. Separation of church and state—once again!

More recently, a group of students organized, with a faculty adviser, a gay, lesbian, and straight group, the Kirkwood High School Gay Straight Alliance (GSA).

Strong reactions arose in one part of the local religious community. Such activities raise strong debate in the broader local community. One fundamentalist religious newspaper called for the high school principal to be dismissed. So, when groups of citizens nominate candidates for school board, each group tries to fill the board with candidates representing their positions. In a sense local democracy is flourishing.

Concurrently with teaching and learning in schools, American society has a multitude of other groups that shape child development. To name a few, the Boy Scouts, the YMCAs, and church groups have activities for children and adolescents. These groups have a moral-ethical framework and rationale. Parents and youngsters opt for those groups that meet their standards and aspirations. But even here conflict exists, e.g. the Boy Scouts are in debate over the admission of gay scouts and scout leaders.

At the tertiary level America has a vast array of diverse colleges and universities. Some are public and others private. The private schools are non-sectarian or represent various religions, such as Christianity, Judaism, and Islam. These religions have a multitude of subgroups. Catholic and Protestant faiths have a diverse array of schools. Some are more liberal, or more intellectual, or more egalitarian. Courses can be as varied as religion and philosophy—the Bible as literature, ethics, and pragmatism. Activities can be as varied as fraternities and sororities, multiple sports and clubs. Social life includes dating and dancing. And more recently co-ed dormitories have been established. Each individual chooses and is chosen.

## **Conclusions**

Editorials are personal statements. Praful Dave's editorial has done what it should. It has provoked me to organize some of my own thoughts about technology, religion, and sex education in the school—particularly my experience with my own community's schools in Kirkwood, Missouri. In America, much of our discussion and debate occurs in the context of our national constitution and its interpretation by our courts and especially the Supreme Court. I don't know enough about Indian history to know what parallels exist. In the areas Dave has chosen to discuss, I do not believe that unbiased, accurate information, "transparency" as he calls it, exists. This is particularly true when concepts, beliefs, values, and interpretations enter the discussions. The bigger issues lie in families and how they want to live, in their religious and ethical beliefs. And how they want to raise their children! In Kirkwood, Missouri the parents are more decisive in the culture than I believe Praful wants them to be in India. Our schools change their curricula and experiences offered to children and adolescents in conjunction with parents' wishes and votes. I have told only a part of the year long and complicated story of my local Kirkwood community. Many versions of truth and rightness exist. The "platform for dialogue" continually evolves for the individual child and adolescent. The crisis years are in the secondary schools and the colleges and universities. The context is in the mix of national and local politics. With our high school principal I have come down strongly for the basic principle of freedom of speech and expression regarding these issues. Other individuals holding to different creeds, values, and priorities would react differently. And they might expect their schools to be different. And thus the local political process would begin—and continue almost indefinitely.

## *The Conception of Reflective Practice*

LOUIS M. SMITH

### **The Problem: Its Nature and Origin**

*In the varied topography of professional practice, there is a high ground overlooking a swamp. On the high ground, manageable problems lend themselves to solution through the application of research-based theory and technique. In the swampy lowland, messy, confusing problems defy technical solution. The irony of this situation is that the problems of the high ground tend to be relatively unimportant to individuals or society at large, however great their technical interest may be, while in the swamp lie the problems of greatest human concern. The practitioner must choose. Shall s/he remain in the high ground where s/he can solve relatively unimportant problems according to prevailing standards of rigor, or shall s/he descend to the swamp of important problems and non-rigorous inquiry? (Schon, 1987, p. 3)*

For a number of years I have been enamored of Donald Schon's work on reflective practice. The powerful metaphor of the "high ground" and the "swampy lowland" will run implicitly through much of the current essay. More recently, "reflective practice" has become one of the focal concepts in a three-way discussion between Praful Dave, Editor-In-Chief of *Perspectives in Education (PIE)* published in Bharuch, Gujarat, India, and Jyothi Mirle, Lecturer in Education at the PSE College of Education in Bangalore India, and myself, a retired Professor of Education at Washington University in St. Louis. This unlikely discussion began when I made some initial comments about Mirle's article in the *PIE* issue (Vol 21, No 2), *Teaching art or science?—implications for teacher training*. The editor, Dave, asked me to expand upon those comments and what became a long exchange of e-mails. My comments were formalized in another essay, *An unlikely conversation with Jyothi*. That essay developed some ideas from my early book, *The complexities of an urban classroom* (1968). These ideas were critiqued and extended by references to Schon's *The Reflective practitioner* (1983). Dave has published those remarks in an earlier issue of *PIE*. The perspective seemed different from those in several recent critiques and extensions of Schon's ideas (Calderhead, 1988, Strouse, 2001 and Valli, 1992).

That then led me to think about a more intensive examination of Schon's

three books on reflective practice. A quick scanning of Schon's third book, *The reflective turn: case studies in and on reflective practice*, suggested further that our three-way conversation might be an essay or series of essays, in the form of an addition to the collection of Schon's collegial essays. Dave would see the issues from his practitioner role, being an editor of a journal, Mirle would see it as important to her practice as a teacher educator, and I would look to its contribution to my long-term thinking about the practice of qualitative inquiry. As these thoughts were being formulated I had a note from Professor Ann Taylor of Southern Illinois University, Edwardsville, the coordinator of ARC, our local Action Research Collaborative, about this year's calendar. I e-mailed her with two thoughts—firstly, did she know of any recent critiques of Schon's work and secondly could I reserve a spot on the autumn calendar of ARC? December was still open, and I requested that date. Along the way I also raised Schon's work with several other long term colleagues and collaborators, Sharon Lee of Lincoln University, Marilyn Cohn a retired Professor from Washington University, and several members of ARC. Into this mix came a final opportunity. A CARN e-mail list contained an announcement of an action research conference to be held in Gold Coast, Australia this coming July 2006. I forwarded this announcement to Praful and Jo with the suggestion that that might be a place for us to meet for the first time and present our developing ideas. This sequence of events is not atypical of much of my professional life before I retired. I believe items like this set of events is important, and is relatively unexamined in the careers of inquiry oriented professional educators. That analysis must wait another occasion.

Now I feel about ready to think about Schon's conception

### **The Recent Return to Schon**

My comments will follow roughly each of his three books as central ideas will be raised and commented upon by reference to a number of practices that have occurred in my intellectual work. Anecdotes and ideas from our book, *The complexities of an urban classroom* (Smith & Geoffrey, 1968) will be central to the analysis and critique. The teacher and class from an urban school seem a vivid "situation of practice." Rethinking one's prior work has a kind of charm, but it also carries some concerns of solipsistic self-indulgence. Once again I urge a caveat to the reader.

### **Book I—The Reflective Practitioner**

Early on, the idea of Schon's that had stayed with me was his argument that the world faced by practitioners of a craft was "situations of practice." These situations—places and environments—were characterized by *complexity, uncertainty, instability, uniqueness, and value conflicts* (Schon, 1983, p. 14). That idea seemed so fundamental to social science and professional education, yet it seemed ignored, neglected, or underemphasized by most researchers and professionals. Most theory, research, and practice did not take account of this view of the world of practice. In effect, if this is true, much of educational psychology is irrelevant to teachers facing such a world in their day-to-day teaching. What an anomaly! When anomalies occur, it is best to pause and explore the implications (Smith, 2005). The present

essay does that exploration with Schon's conceptions of "situations of practice" and the reflective practitioner

At this point I want to re-visit "situations of practice", and its several dimensions, I begin with *instability* as that appeared in Geoffrey's class in the Washington School in a lower socio-economic neighborhood of the City of St. Louis. In September Geoffrey got his seventh grade classroom organized for the year. In October a shortage of pupils in the Washington School caused the principal to reorganize the upper grades. Geoffrey lost over half of his seventh graders and received a half class of 6th graders. He now had what is called "a split-level classroom." Among other pupils, Sam the court jester who brought humor to the class now was gone. Some of the remaining girls were sorry to see him leave. In *Complexities* we stated it this way:

*Except for Sandy, who interacts with Geoffrey, most of the class spokesmen and virtually all of the scholars will be gone from the original seventh grade group (1968, p. 132)*

On occasions like this Geoffrey often would get a wry grin on his face and ask me--'What does Education 101 (Course Number in the Univ., explanation supplied) say about this?' On other occasions he would ask in a note carried by one of the children to me, 'What does the good teacher do here?' On those occasions I would mostly smile back and shake my head with an 'I don't know quality.' Now I am arguing that these events and occasions are, unknowingly, times he was acknowledging *instability* an aspect of Schon's situations of practice. There were no "technological rules" that one could turn to. Situations of practice were elements of a teacher's world, and demanded reflective thought and judgment. He knew it, but we, he and I, had no way to talk about it. Labels such as the "good teacher" and courses like "Ed 101" were viewed as though there were simple answers to events he found in teaching his class.

Further, in the same episode cited in the last paragraph, a dimension of *uniqueness* also appeared where we reported initially only on *instability*. Two of the girls in Geoffrey's class were sisters. With the changes in classroom structure, a younger sister from the sixth grade joined her two older sisters. Of the three she was the most able. The oldest was the least able--a perfect negative correlation between ability and age. How does one handle such a unique event? Where is the rulebook from Education 101? At the time, our humor indicated such a book did not exist. Now I am arguing that what one needed was not a technological rulebook solution but a change in thinking toward what Schon calls reflection in practice. The teacher was called upon to use his best judgment.

*Value conflicts or dilemmas* also appeared in Geoffrey's classroom often in unusual times and places. Early on, in a language arts lesson, Geoffrey was suggesting the importance of language learning. The field notes picked it up this way--

*'illustrates with ain't Who'll get the job? The people who can speak, write, and read correctly I'll start correcting the language that I think*



*can be improved Makes a distinction between "here" and "out there" I won't be around to rap you on the head with a pointer (teases Sandy) Acknowledges his lack of control out there (9/6)'*

Implicit in this field note is the value dilemma of social class and cultural differences. In the homes of many of the youngsters and in the community area around the school, "the ain'ts of language" are the familiar elements of the spoken word. A teacher who tries to correct the language "out there" is soon in the middle of large areas of value conflict. Defying what Ed 101 says about the principles and technology of transfer of training, Geoffrey elects to make the distinction between here and out there. In class we do standard English, Elsewhere you may speak as you wish. One can disagree with Geoffrey, but I would argue that that is not a simple issue of right or wrong, rather it is a professional judgment about a value conflict. Later in *Complexities* (p. 98-100) we raised a larger analysis and suggest another possible conception, teach them that it depends on the situation. This option might be a third alternative on language usage. The implications of that alternative raise a number of complicating hypotheses. The reflective practitioner is in full dress.

A reflective practitioner is the professional who works in environments of situations of practice. Within professional education, these practitioners have not been well served when decisions arise in teaching, curriculum development, and evaluation.

Explicitly in his book, Schon argues for a major restructuring of professional thinking. Western social science, following the physical and biological sciences, has argued for the importance of the abstract, the general, and the theoretical over the concrete, the particular, and the practical. This is the high ground of the metaphor. Schon turns that on its head and argues for the alternatives. In effect technical rationality is superseded by reflection-in-action, inquiry in the swampy lowlands.

Geoffrey's teaching at the Washington School in a slum neighborhood is a persuasive example of a teacher who is a reflective practitioner at work in a complex situation of practice. In addition, intertwined in that discussion are Smith and Geoffrey as researchers engaged in the practice of inquiry. Our story becomes very complicated at this point. The earlier theme of Geoffrey as teacher and now Smith and Geoffrey as collaborative researchers is very important. Our focus is shifting drastically—from Geoffrey as a reflective teacher to Smith and Geoffrey as reflective practitioners of qualitative research methods.

One of the most helpful accounts clarifying the concept of reflective practitioner of inquiry appears in *On intellectual craftsmanship*, C. Wright Mills's appendix to *The sociological imagination* (1959). In a strange way it is a highly sophisticated "how-to essay." Some of the ideas are very general and abstract. On other occasions his writing is quite specific and concrete. Our "conversation" with Schon will gradually be expanded to include Mills. And this will present problems, challenges, and opportunities to my colleagues, Dave and Mirle. My comments on reflective practice in inquiry fall easily into Schon's discussion of educating reflective practitioners, the topic of his second book.

*Book II—Educating the Reflective Practitioner*

Schon's original intention was to publish this material on the education of reflective practitioners as part of the first book, but the material outran the length of a single volume. 'Reflection-in-action', the thinking that one is doing while one is doing the activity reappears. As I re-read this comment, an item went into my notebook regarding our book, *The complexities of an urban classroom* (Smith and Geoffrey, (1968)

*In a sense the interpretive asides and the summary observations and interpretations are statements of "reflection in action", a record of what we are seeing while we are doing the research project. These notes later are organized and developed in the substantive monograph or book as a "methodological appendix"*

I always thought that the *interpretive aside* was one of our major methodological inventions in *Complexities*. It was the "bright idea" that occurred along the way that I did not want to lose. It got bracketed with my initials to indicate the differences from what I thought were more direct observations of the classroom—its activities and interactions. It was a quick stab at the meaning of an event, a one-off interpretation. We did not see then the broad generalization that Schon made as reflection-in-action. Later when we began the more intensive analysis of the field notes these interpretive asides became the foci for developing concepts, hypotheses, and miniature theories. I encouraged students in classes and seminars to include such asides in their notebooks. Those students with the most asides tended to make the most stimulating analyses—an important cut into educating reflective research practitioners.

Events pressed in on us in another way. Both Geoffrey and I had thirty-to-forty minute drives from home or from the University to the Washington School. This was dead time when each of us was full of excitement, observations, ideas, and interpretations of the events of the day. We bought two Stenorette dictating machines. It was possible to make records of all kinds of observations and interpretations out of site as we drove back and forth. I began to have images of a psychoanalytic couch with free associations running loose. Off site, these became *summary observations and interpretations*. In many instances, thoughts from scattered literature appeared and were noted. We were pushing the farther reaches of our backgrounds. At the time we did not have the breadth of vision of Schon and his reflection-in-action of researchers engaged in the practice of research, that is, in the fascination while mid-stream of a research project. We knew the research situation was complex but we had only minimal notions of value judgments and conflicts, uncertainty, uniqueness, and instability. Our summary observations and interpretations began to include data and ideas that would make some of these other aspects of situations of practice open to analysis. We were with the Schon-to-be but not creative enough. But encouraging our seminar students who were becoming teacher researchers to keep a file of summary notes was a major step in making them better researchers. These notes brought forth more significant interpretations as they began to make sense of their data. Reflection-in-practice

was on its way. Now when colleagues ask me how to clarify what teacher researchers do as reflective practitioners I can say that putting interpretive asides in your field notes and writing summary observations and interpretations while outside of the setting is behaving like a reflective teacher-researcher.

The big idea in training reflective research practitioners arose in my teaching a sequence of courses containing varied experiences. The curriculum has evolved over the years. Initially in the summer of 1962 I began a course called "the classroom as a social system." We had two texts: Homan's *The human group* (1950) and Cartwright and Zander's *Group dynamics* (1953). The major class project was to do a small study of a teacher's classroom or other small group, the intent was sort of like the case studies in Homan's book. I wanted to see if the students could *make the methodology work*, an early statement of becoming a research practitioner. That was but a step away from being a reflective practitioner. At the time I did not see the broader generality of the experience. The two textbooks presented two large language systems, theories if you like, useful in talking about groups. Implicitly they carried ideas that became materials for thinking.

The following semester, I offered a seminar with the same title, "the classroom as a social system." Here the students extended the earlier substantive project or began a new one. In addition, each student wrote a "methodological appendix" to the project report. William Foote Whyte's appendix to *Street corner society* (1955) became a major source, as did Malinowski's method's chapter in *Argonauts of the western pacific* (1922). Becker's methodological pieces growing out of *Boys in white* (1962) were also a part of this. Later Geertz' books and Bruyn's text would become a part also. Part of my rationale was that each student must be able to defend his or her work against the more traditional scholars in the department. And later as students came from other universities they had departments that were not always sympathetic to our qualitative and action research methods. Interestingly the rationales came after the students were able to make the methods work in practice. They became part of what Kaplan (1964) called "theories in use." Schon does not cite Kaplan.

The third semester a number of students signed up for "independent study" and moved seriously and formally into dissertation work. Also at this point they obtained a PhD committee and presented their research to our Ed 509 seminar for departmental approval of their dissertations. By this time it was pretty much a foregone conclusion that approval would occur.

Through all of the above classes and seminars I would present some of my work-finished pieces that were published and other projects that were underway. I indicated "I have spilled a lot of red ink on your papers, now is the time for you to do the same with my project reports." It often took newcomers to classes and seminars to realize I meant it. The discussions were rollicking affairs. Their comments, criticisms, and alternative approaches and conceptions would be built into revisions of my unfinished papers before presentation to AERA and CARN meetings and journal articles to EAR, AEQ, or QSE or as book chapters. For a long time the Graduate Institute of Education, GIE, norm was to get the laundry laundered.

first at home. All this was more toward becoming reflective practitioners of research as well as practitioners of teaching. Another way of saying this is the students were becoming Schaefer's "scholar teachers" in schools that were becoming "centers of inquiry." Powerful concepts and norms were getting codified and passed on.

Without the label then, I believe these courses and seminars were the essence of a *reflective practicum*. Theory and practice of research were being combined. Learning by doing was everywhere in the students' projects. As teacher, I was a coach in the best sense of Schon's hopes. And I felt these experiences were as good a set of illustrations of a reflective practicum as those presented in Schon's three books.<sup>1</sup> These activities, it seems, handle one of the major critiques of Stephen Newnan's in his book with the lovely long title *Philosophy and teacher education: A reinterpretation of Donald A. Schon's epistemology of reflective practice* (Newman, 1999, p. 144). The student's research project, continuing or new, was the major activity. I would present pieces of my work as illustrations and they would present theirs. Substantively, the topics varied from studies of curriculum and teaching to school administration and organization. Methodologically all the students were reading articles and books on qualitative research, ethnography, action research and later history and biography. Some of these reflected my own changing agenda and some that the students brought for the rest of us to consider. The teaching approach for me grew out of early reading of Dewey and later reading of Bruner and others, as well as earlier teaching of educational psychology.

One of the books that has helped me the most in thinking about and doing reflective practice is *Teaching public issues in the high school* (Oliver and Shaver, 1967). See also our essay review (Smith and van den Berg, 2001). Oliver and Shaver concentrate on value conflicts and dilemmas. Essentially they argue about public issues, but I would extend the argument to all situations of practice. In their view, to think about most of these issues one must make distinctions among definitions, values, and empirical data. For instance in our earlier illustration of Geoffrey's language arts teaching he urged the children to distinguish between "here and out there" in their definitions of place. Here, as in the classroom, he would correct their grammar and language usage. His assessment of local values, the "out there" acknowledged that the local community spoke more informally. But for some occasions out there might be jobs demanding standard English. Heavily into this teaching of his was the issue of what he could control. More generally, in urban schools and classrooms such as the Washington School control is a big issue. In both *Complexities* and in our discussions among Smith, Mirle, and Dave in *PIE* (Smith, 2005), I have presented the issue of classroom control in some detail. In short, we are about reflective practice in teaching and reflective practice in qualitative research on teaching.

### ***Book III—The Reflective Turn***

Book Three of Schon's trilogy is different. It is a collection of brief reports from reflective scholar practitioners around the world. They represent different domains of practice, theoretical stances, and inquiry methods. Schon has judged them all to

have something to say about reflective practice. The variety gives further definition to the 'reflective turn'. As I scanned the table of contents and Schon's brief comments about each chapter, my attention was quickly drawn to Dan Bar-On's "Trying to understand what one is afraid to learn". Schon comments early on that Bar-On's definition of a situation of practice, "the practice of living" is the broadest in the book. In this essay Bar-On probes the lives of children of German officials who perpetrated the Holocaust. Beyond a long-term interest of mine in studies of the holocaust, the *practice of living* had also been of long-term personal interest. In the Washington University library, formerly on the fourth floor Albin Polasek's sculpture of a man in a block of granite up to his thighs. The man has a hammer and chisel freeing the rest of himself from the granite. The title is man 'carving his own destiny'. The sculpture is symbolic of my concern for the practice of living, as one creates a career and more significantly a life style and a life. Would Bar-On have anything say to my interests? And what of Schon? And Dave and Mirle?

Briefly, Bar-On's essay is an exquisite example of what I would call a *methodological appendix*, the kind of document we wrote as we finished each research project. He begins by saying that he wants to present my own way of feeling—and thinking how I went about this research (p. 321). He muses over issues such as the German language that would be needed. Born an Israeli with Hebrew as a first language, he found that he knew some German from conversations with his grandparents as a child. He even had a Hamburg accent that later in Germany, some thought natural. In Switzerland as an adolescent on holiday with his parents he met a German gentile who broke his stereotypes of Germans. Bar-On then recounts meeting a holocaust survivor while doing research on heart patients in an intensive care ward in Israel. Nightmares, denial, and concern that his son was also developing similar nightmares led one individual to talk at more length with Bar-On. And this led Bar-On to begin asking himself about the survivors of the perpetrators of the holocaust rather than the children of the survivors. In my view this is a vivid form of reflective practice. This autobiographical account of the genesis of his research is a seldom given set of comments in more traditional research. That tradition argues for distance, detachment, and objectivity in one's research report.

Bar-On's initial traditional research orientation guided his hunt for subjects, the development of his semi-structured interview schedule, and his analysis of data. But the quantifiable results seemed almost meaningless compared to the stories he was obtaining. He began looking for an intermediate kind of analysis between the unique and idiosyncratic details that fascinated him and the objective kind of generalizations he had hoped to find. At that point he began to generate concepts such as the "double wall phenomenon", "the dark side of the mind", and "the paradox of morality". He found one father's denial of episodes in the Holocaust also had denial in the son's memory. The mind carries these dark-side episodes of mass killings, events observed and participated in. Throughout, Bar-On reports on episodes of his own anger at his subjects, his fears of further follow-up interviews, and his pleasures in other contacts. His ways of feeling and thinking

run throughout. In his work Bar-On moved toward qualitative inquiry. The long essay illustrates one important conception of a reflective research practitioner.

Reading and commenting upon Bar-On's reflective practices initiated a train of my thought back to *Complexities* and what we were doing in that project. Some of the thoughts can be stated briefly and synoptically.

- 1 Geoffrey and I had a collegial relationship from his being a student in two of my summer classes. As I was to comment later when he did something that Ed 101 might not approve I would comment that he had seen all my limits as a teacher, so "fair's fair." Collaborative work has its own kind of complexities.
- 2 Before school we met most days at Italo's, a neighborhood ethnic restaurant for coffee and a donut. We reviewed events and he talked of the day's activities. Unfortunately we did not record these conversations.
- 3 In our field notes we inserted what we called interpretative asides. This note taking was reflections in action in the best sense. Later they became immensely important in our developing conceptual analyses.
- 4 We bought tape recorders for what we called summary observations and interpretations. Further reflections in action, although off site!
- 5 Without quite knowing why, we collected notes from home excusing absences. They gave us a view of the home and the local culture.
- 6 Our methodological appendix contains so many ideas of our continual reflections on our methods and procedures I almost want to present it verbatim. But one sentence must suffice. "A self-consciousness about our procedures led us to further reflections on the methodology of 'classroom micro-ethnography' (p. 251). A short list of names indicates how far we rambled: novelist John O'Hara, mathematician Polya, sociologists Zetterberg, Lortie, and Becker, social psychologists Festinger and Schachter, and social anthropologists Whyte and Malinowski. Suggestions for next directions for reflective practitioners!
- 7 I'm not sure who recommended Hans Zetterberg's *On theory and verification in sociology* to me, probably my colleague Sandy Charters, but the book, in an unusual way, had a major influence on my "reflective practice." My interest in verification was principally to distinguish it from hypothesis generation or discovery. We were able to develop pictorial models of concepts, hypotheses, and miniature theories of classroom events. These "models" infiltrated all of our work. I'm not sure what Schon would have made of these efforts.

Within the world of professional education, once—and still—dominated by traditional research paradigms, the methodological appendices that my colleagues and I wrote were attempts to defend and make legitimate our approaches. It was a long struggle in an oft-hostile world. Our work eventually became part of a large subgroup of inquirers whose methods were called qualitative, ethnographic, case study, or action research. Now I see much of this world, as a world of reflective practice. Schon has enlarged our view.

In this essay, I have entered the distinction usually called concept attainment versus concept formation. In concept formation one takes the particulars of one's observations and moves to the more general and abstract. This is concept formation. Now in this essay we have begun with Schon's rich conception of situations of practice and tried to find illustrations of that from our book *Complexities*. This is a form of concept attainment. In effect, we have illustrated each of the elements of situations of practice—instability, value conflicts, uniqueness, complexity, and uncertainty. If we had been as creative as Schon we would have discovered, that is, created the idea of situations of practice. In most qualitative research the focus is on what many educational psychologists call concept formation. One moves from the specifics or particulars in the inquiry to the abstract and general, that is, concept formation. And that is a very creative activity. The intellectual process in this essay is closer to concept attainment, that is, I have been moving from a very complex concept, situations of practice to its clarification through examples already in the literature. Items in our book *Complexities* have been examined to see them as parts of Schon's conceptualization. Also I am not sure what my colleagues Praful Dave and Jo Mirle make of all this in their professional worlds of editing a journal and teaching pre-service teachers, but then, that's what collegial conversation is all about.

### **The Farther Reaches of Reflective Practice: Later Studies**

Here I try for two major points—reflective practice appears both in the sequence of later studies my students and I have carried out and in specific ideas within those studies. Most of the ideas are taken from the methodological appendices we wrote at the close of each project. Much of the content of these later studies is abbreviated, hence it is suggestive, and must wait for a later discussion.

### ***Immediate Extensions***

A long career poses a number of problems in both telling the story as well as efforts to conceptualizing what occurred in the stories. In spite of Bruner's (1983) attempts to make story telling and conceptual analyses into two distinct and mutually exclusive genres of thought I find them capable of integration.

When I discovered how much I liked the qualitative observational methods, how they seemed to fit my more general personality, and how well I seemed to be able carry out those methods, I fell into a series of projects that left me with the label *running the methodology*. Shortly after we were finishing *Complexities*, an opportunity arose to study a newly built school with a number of educational innovations. In negotiating with the principal of the Kensington School and personnel in the central office of the Milford School District I raised the idea of a qualitative observational study, instead of the experimental designed project they were considering. A year's intensive observation, initially guided by the unusual physical structure of the building led us into a much broader project, a grant from the US Office of Education, and a report on school building design. That became *Anatomy of educational innovation: an organizational analysis of an elementary school* (Smith and Keith, 1971). What I see now as reflective practice involved discussions on the nature of the problem and the methodology to be used. I was

not deducing the research problem and hypotheses from a study of the literature as traditional concepts of research suggest. I was fascinated by a method and a substantive concern for the genesis of a faculty as a community. I believed and found that I could trust my judgment.

And then there was an interestingly different teacher education program at City Teacher's College. Their student teacher program involved each student spending two weeks in kindergarten and in each of the eight grades of the school. We labeled that the "two by two" student teaching experience. The City Teachers College program contrasted vividly with our students who would spend a semester in a single class at a single grade level. My hunch was that the two programs that were so different *had* to produce interesting results. Once again, a setting pulled us rather than the deductions from theory pulling us. Methodologically we invented the metaphorical label *the jigsaw puzzle analogy* in making sense of our data. The metaphor had another twist—we had to create the pieces of the puzzle as well as putting the pieces together into a meaningful pattern. All this seems a beautiful example of reflective practitioners in action. That project became *Analysis of Patterns of Student Teaching* (Conner and Smith, 1967).

And soon after the student teaching project, came the opportunity to evaluate an innovative computer-assisted instruction program. The published report carried the title *Education, technology and the rural highlands* (Smith and Pohland, 1974). Participant observation, qualitative inquiry, and ethnography bubbled all around me. A number of outcomes came from the project. Perhaps most importantly, the rural highlands project was one of the first to break the traditional psychological pre-post approach to curriculum evaluation. We were attempting to see evaluation from the inside, the perspective of the professionals in the innovative computer assisted instruction project and how they struggled each step along the way to make the project successful. As evaluators each aspect required a considered decision, reflection-in-action. Which schools, which teachers, and which groups of pupils were all open research issues. 21st century technology placed in communities still living, in part, in the 18th century proved a challenge to the curriculum developers and to us as evaluators. Later, in a *conference* in England concepts such as *illuminative evaluation* arose. The conference produced a final report with the title *Beyond the numbers game* (Hamilton, *et al* , 1977). Without the label, reflection-in-action was all through the conference deliberations.

In running the methodology I opened the possibilities of the substantive problems and issues available to such a set of inquiry approaches. In a sense the reflective practice was a redefining of projects as I tried to run the methodology. The big generalization was introducing a new way of investigating teaching, classroom analysis, school innovation and reform, and curriculum evaluation. I felt a bit like a warrior on the warpath, stretching out an emotional high. Creativity was running loose as well. I was a reflective practitioner of qualitative research methods over an array of substantive problems. Even more important was the expansion of reflective practice not only to a one off project but also to a research serial or research program. Professional careers and life styles were implicated in reflective practice.



Within each of these projects, as we ran the methodology, special ideas arose about our practices

### *Kensington Revisited*

When NIE, the National Institute of Education, solicited proposals for research in school organization I found myself thinking about a *follow up* study of the Kensington School. I knew of little literature in that area. And then, in an item unrelated to reflective practice, I was attending AERA and ran into a friend, David Cohen from Harvard. I raised the issue with him. With a kind of wave of the back of his hand, he commented that he and a colleague had recently been reviewing some of the literature on school organization and they found that “nothing existed” in the area of follow-up studies. It was as though I was hearing from Mt. Olympus. I knew then the idea would work. *Respected colleagues* are a major part of reflective practice.

Essentially the proposed study would hunt the original faculty members of the Kensington School, now scattered around the country, and secondly return to the school for a second ethnography. It would be sort of a two-book project.

The request for proposals, (RFP), had an interesting twist or two, its own kind of a situation of practice, with its unique character and implicit value position. There was a two-step application process: first, a brief preliminary proposal and a second larger full proposal. Approximately 20 projects were to be accepted and funded from a group of approximately 100 proposals. Initial ratings were made on the preliminary proposals. Three levels of quality were developed: a first small group of likely acceptances, a middle second group of strong proposals, and a third group of proposals unlikely to be accepted. This process was to help people determine whether they wanted to put the effort and resources into the full proposal. For reasons I don't remember, I thought that the major decisions would be made on the first, the preliminary proposal. Consequently, I worked very hard on my preliminary proposal. Later I heard that we had made the first group of a half dozen very strong proposals, and still later I heard we placed first or second in that group. In that environment of indeterminacy, I had made a couple of *key decisions*. In retrospect this seemed a situation of practice and I was behaving like a reflective practitioner. Would Schon agree? What would be Dave's reaction? Is this like being a journal editor responsible for judging and accepting articles for publication, And would Mirle be thinking of the kinds of activities supported or demanded or discouraged by an Indian teacher's college? Am I casting too broad a net for reflective practice? Am I trying to squeeze too much into Schon's perspective?

With the accepted proposal, then came the day my “two-book project” turned into three. We were working on the ethnography of the Kensington School to see how it had changed from its beginnings fifteen years before. I was reading district newsletters in the curriculum room in the main office of the district. Items in the newsletters hinted at earlier problems between the then superintendent and the board president. In my local metaphorical language it *smelled like* something was going on. The curriculum office was halfway between the superintendent's

office and the coffee pot. One day I hailed the superintendent on his way for coffee and showed him the item. He said something like “the board was trying to get rid of him.” He ambled away and after a brief while he returned with a thick black bound book. It turned out to be Board minutes. The volume covered the time of the conflict and listed a series of concerns the board president had with the superintendent. The document seemed like a powerful set of primary historical data. I asked if there were more bound volumes like this one. He said, “Yes, we have a whole closet of them.” I asked further about reading them and he indicated they were public documents and open to any citizen. That brief interlude began a two-year journey in the some six decades of the history of the Milford School District. I became an historian! Anomalies occurred and in my best judgment, my research project changed beyond recognition and once again I seemed to be engaging in the best of reflective practice. Sometime later, in re-discovering C Wright Mills I found the nature and significance of my new three-part project.

*The sociological imagination enables us to grasp history and biography and the relations between the two within society. That is its task and its promise. To recognize this task and this promise is the mark of the classic social analyst.*

*No social study that does not come back to the problems of biography, of history and their intersections within a society has completed its intellectual mission (Mills, 1959, p. 4)*

Thinking about what one is doing in the midst of a research project for which one has written a proposal that has been funded and is well underway is a funny time for re-construing what one is about. *Reflection-in-action* can have a broad sweep! Our Kensington Revisited project would culminate in a trilogy of books—*Educational innovators then and now* (1986), *The fate of an innovative school: The history and present status of an innovative school* (1987), and *Innovation and change in schooling: history, politics, and agency* (1988). Biography, history, and society had come together in this follow-up of the Kensington School. I thought it was a major accomplishment, some agreed, others did not, (Burgess 1993).

### ***Mills as a Reflective Practitioner***

Beyond causing us to rethink the very nature and scope of our project, which is an incredible jump in reflection-in-action in a situation-of-practice, Mills wrote an Appendix, “On intellectual craftsmanship” to his book. The first sentence suggests he was doing Donald Schon, before there was a Donald Schon.

*To the individual social scientist who feels himself to be a part of the classical tradition, social science is the practice of a craft (1959, p. 195, emphasis added)*

His general statement suggests where he is headed. Somehow, Praful and Jo, this does not sound like traditional research. A craft? That you practice? Years ago, while in New Zealand on a Research Fulbright, I learned how to spin wool, then weave the wool I had spun into cloth. Also I learned a bit about how to do Maori carving. These were surely crafts. Was my research Fulbright denigrated? Or was

the research context lauded by labeling it a craft? Mills is taking us on a serious journey—and implicitly Schon is along for the ride. The craft metaphor created considerable discussion in my ARC seminar and group. Some thought it too restrictive, others did not. One member, a former master electrician, now a college professor was unable to attend our ARC meeting but later he wrote a short note containing this statement:

*I was reminded of craftsmanship awareness in building something on the job. There is always work with an inner image, conception, visual image which precedes and interacts with specific action—continual reflection-in-action but always informed by a consciousness of mastery sets of skills and deep knowledge, inner attitudes, feelings, values etc. built up over years (Goodwin, 2005)*

Elsewhere in his e-mail he commented:

*The deeper aspects of working relationships in construction between journeymen/women and apprentices doesn't seem that different when looked at in human relationship terms (Goodwin, 2005)*

Goodwin's and others' comments suggest the need for more intensive analysis of craft, and the various stages in learning a craft within the work of Schon and Mills.

In another far-reaching suggestion, Mills argues that the intellectual craftsman does not split his professional life from his personal life. *Integrating the personal and the professional* hardly seems like a practical research principle. In part, objectivity and detachment are leaving Mills' world. The young scholar must learn to use one's life experience in one's intellectual work. Research is beginning to have an autobiographical quality. And Mills is arguing that that is important. Paul Valéry, the French intellectual, stated the issue this way: "There is no theory that is not a fragment, carefully prepared, of some autobiography" (In Olney, 1980, preface). Mills and Valéry are making a major commentary and critique of much of traditional social science inquiry. Now, for me, much of my professional writing is in first person. What do you think Praful and Jo? Is Mills mostly right about combining the personal and the professional?

Mills moves concretely and specifically—*keep a journal*. He calls it a file. In today's computer world Mills' file would be a mix of files and folders. The journal, at its best, integrates the personal and the professional. One's intellectual world studies under way and studies planned - is enriched by one's broader life experiences. My own experience tends to make each project a kind of a unit of experience. The notes within a file seem to be bounded within a project. But the projects are linked. Smaller items become the genesis of new projects. What Mills calls *fringe thoughts* are like some of the free associations that appear in our "summary observations and interpretations." These fringe thoughts are ideas that flit through one's consciousness, ones that seem intuitively important, and ones that one doesn't want to lose.

But the file is not just a collection of fringe thoughts, but also a means of putting temporary order into those thoughts. One of the best forms of intellectual

structure is *chronology*. For each academic year I build a PERT diagram, a flow chart. The strands of the chart are on the ordinate - courses to be taught, dissertation students to be advised, conventions and meetings to be attended, presentations to be made, and projects beginning, middling and ending that is, underway in some form. The abscissa is a time line of the year. The chart keeps professional life activities under some kind of order, if not control. Here I am mixing a little of me with a little of Mills. The particulars of one individual being a reflective practitioner are becoming clear. Praful and Jo, how do you handle this part of your personal and professional lives? Ordering my professional life this way causes me to reflect on my professional life. A *time line* is a part of my reflective practice. *Annual reviews* are extremely important in clarifying my small world.

Mills, as he talks of his files, suggests the *wide range of reading* in which he engages. And this leads him to discuss and advocate *note taking*—"the mere taking of a note from a book is often a prod to reflection" (p. 199). Throughout the appendix, Mills is developing an image, full of details, of the life of a serious and highly engaged intellectual craftsman.

*Writing* is a related item. Mills argues that one should write in one's journal at least once a week. For me, when projects are hot, the journal writing is almost every day. I found also that I argued with PhD students to *keep your summers free* for major analytic work and writing of final reports, major essays, and pending conference presentations. Over this twelve-week period if I could write three to five pages a day, during three to five days a week that produced on the short end nine pages a week and 108 pages a summer. On the long end 25 pages a week and 300 over the summer. If those goals were not easily met at least a focus was present. Most writers have their practical principles of writing. Hemingway, for instance, would begin work each day at the beginning of the short story or book chapter and proceed onward. This enabled him to daily critique and to edit his work before he moved on. I found that this practice slowed the writing, but it also cleaned up the prose. On the other hand, while writing his *Journal* about the voyage of HMS Beagle, Charles Darwin found the type of writing influential in his thinking. For him writing narrative moved easily, but writing containing theoretical reasoning moved ever so slowly. One further example of practical principles of writing—and extension of our earlier point—is seen in sociologist Howard Becker's admonition that sociologists should write in first person. This, thereby, takes out the usual turgid quality of sociological prose. For the research oriented social scientist, writing is a most important and relatively unexplored practical part of the craft of inquiry.

In a long exciting section, Mills specifies in some detail the *genesis of ideas* (Pp. 211-217) within the intellectual craftsmanship of sociological inquiry. One more important slice of reflective practice!

In conclusion, when I am asked now—"what is a reflective practitioner?" Or "what does a reflective practitioner do?" I have an easy answer. Look to C. Wright Mills as he describes his approach to intellectual craftsmanship. Each item has its own significance. The overall list is an integrated statement of how one man ordered

his life as he practiced intellectual craftsmanship. The move from intellectual craftsmanship to reflective practitioner of inquiry is a simple one.

### *From Life Histories to Biography*

I won't try to explore this issue. Briefly, after doing the long, two to six hours, taped interviews of the Kensington faculty I knew that I wanted to do what I called *a for-real biography*. I thought my subject would be an educator, a schoolman or woman. In a long sequence of experiences I found my subject. Nora Barlow a granddaughter of Charles Darwin became the subject. Some of that story I told in a long essay, *Nora, Charlie, and me: a biographical journey* (2003). A trip to the Galapagos Islands with friends, discovering a book of Darwin's letters written while he was on HMS Beagle circumventing the globe, edited by his granddaughter Nora Barlow. That story details the decisions and judgments that arose in this particular biography. A more formal detailed account of the nature of biographical inquiry, and its decisions and judgments, appears in a long chapter that I called "biographical method" (Smith, 1993).

### **Thoughts toward a Few Conclusions**

This essay has wandered more than a bit. Essentially I wanted to present to Praful and Jo, as well as other readers, a conviction that the intellectual work of Donald Schon was a perspective of major importance for professional educators. In the quotation that began this essay I cited Schon on the differences in the high ground of problems with clear definition and openness to technical solutions. The "swampy lowlands" of ill-defined problems not open to technical solutions were where education and schooling lie and where I have chosen to wander. Technical rationality, an offshoot of scientific method in the physical sciences, worked less well in helping professionals in the domains involving individuals and their interpersonal relations. The human predicament contains situations that are unpredictable, idiosyncratic, complex, unstable, uncertain, and value laden. Problems in these circumstances require professional judgment, reflection-in-action to use Schon's term, not application of abstract scientific principles and theory. In my professional experience that was a new way of thinking. It meant that my earlier position in educational psychology in 1964 had to move from the subtitle in our text, "An application of social and behavioral theory" to something else. We got part way there with the title of a second book—*The complexities of an urban classroom*. A much later book carried the title *Urban parent education dilemmas and resolutions*. Helping parents of young preschool children to make *informed decisions* suggests the move we were raising. No simple set of rules exists in parenting. Young mothers who decide to stay home after the birth of their children had a different agenda from those mothers who chose to work after the arrival of their child. Such decisions are quite complicated.

Many of the illustrations of our personal re-construal came from our project reports and several books. In Schon's statement on educating reflective practitioners, *the reflective practicum* is one of his major ideas. In the practicum one learns by doing. Essentially the learners are not "talked at", rather they are put in problem situations containing the elements of ambiguity, idiosyncrasy, and

uniqueness The teacher behaves more like a *coach* than a traditional teacher Perhaps *tutor* is a more provocative label In looking back over my classes and seminars where I wanted to teach students to be practitioners of the *craft* of qualitative educational inquiry I found that in each class the student picked a substantive problem and a setting to inquire into, I was explicitly seeing if they could make the methodology of qualitative inquiry work The substantive problems varied over the domains of teaching and learning, curriculum development and evaluation, and school organization, innovation, and reform The seminar moved directly into each student developing his or her own theory of methodology

For many of the students, Mills' appendix, "on intellectual craftsmanship" to his *The sociological imagination* (1959) illustrated well what I was trying to teach my students about qualitative inquiry Blending the personal and professional in their lives, developing files to give a sense of problems, literature, and writing, and a feel for becoming an academic man or woman in professional education became vividly clear Ways of inquiry into situations of educational practice were now blended

In tracing autobiographically, brief accounts of a number of my research projects I hoped to show concretely and clearly some of the major issues in the life of the reflective research practitioner There is the flow of one project into the next, the multiple possible studies at any one point in time, and the circling back of many of the ideas to earlier ones Anomalies in a project, suggest themselves, at other times outside influences occur, and in still other occasions these influences combine themselves in unusual ways There are no strong technical rules for all this beyond keep your eyes open, have time in one's calendar for unexpected events, and retain a broad manifold for taking in fringe or extraneous stimuli Then too, my "files" or notebooks contain a broad array of items about which I am curious but haven't gotten to as yet An interesting sub-case of this set of ideas is that I often am on the lookout for settings where ideas might be put to the test In a sense, I'm arguing for places rather than for problems For instance, part of the initial attraction to the Kensington School was that they were hiring a faculty new to each other In my head was the thought—I was fascinated by the power of the faculty peer group at the Washington School Now I would have the opportunity to see a faculty develop it's own culture In a sense, it was an idea looking for a home

In Jo Mirle's original article that began our conversations she took what I would call a more traditional view of science and teacher education As editor, Praful Dave was pleased to see one reader challenging another In the course of our e-mail exchanges, the nature of educational and social science inquiry arose I argued that qualitative research exemplified by participant observation, ethnography, and action research was legitimate ways to understand educational phenomena I also argued that teaching and teacher education were hampered by being considered as settings for an application of psychological and other social science ideas and methods As some would call it, the wisdom of skilled practitioners was being ignored or denigrated Into these discussions I wanted to bring the perspective of Donald Schon In his several books he presented an

alternative way of talking about teaching and approaches to inquiry in teaching This I felt to be highly important for educational researchers and practitioners

*Note This essay has had a complicated development It is part of a continuing discussion with Praful Dave and Jyothi Mirle in the journal Perspectives in Education published in India The essay was first presented to the Action Research Collaborative (ARC) in St Louis, December 10, 2005 My thanks to members of ARC for their helpful suggestions!*

## References

- Barlow, Nora (1933) *Charles Darwin's diary of the voyage of H M S Beagle* Cambridge, England Cambridge University Press
- Bar-On, D (1991) Trying to understand what one is afraid to learn In Schon, D *The reflective turn* New York Teachers College Press
- Becker, H S , et al (1961) *Boys in white* Chicago University of Chicago Press
- Bruner, J (1986) *Actual minds, possible worlds* Cambridge Harvard University Press
- Bruyn, S (1966) *The human perspective in sociology The methodology of participant observation* Englewood Cliffs, N J Prentice Hall
- Burgess, R (1993) Case studies of educational innovation returning to Kensington Elementary School *Teacher and teacher education* 9, pp 219-227
- Calderhead, J (Ed) (1988) *Teachers professional learning* London Falmer Press
- Cartwright, D & Zander, A (Eds) (1953) *Group dynamics* New York Row Peterson
- Geertz, C (1973) *The interpretation of culture selected essays* New York Basic Books
- Goodwin, David (2005) Personal communication
- Homans, G (1950) *The human group* New York Harcourt Brace
- Kaplan, A (1964) *The conduct of inquiry* San Francisco Chandler Press
- Mills, C Wright (1959) *The sociological imagination* New York Oxford University Press
- Mirle, Jyothi (2005) Teaching Art or science? Implications for teacher training *Perspectives in Education* 21, 87-99
- Newman, Stephen (1999) *Philosophy and teacher education a reinterpretation of Donald A Schon's epistemology of reflective practice* Aldershot, Eng Ashgate Publishing Co
- Oliver, D & Shaver, J (1966) *Teaching public issues in the high school* Boston Houghton Mifflin
- Schon, D (1983) *The reflective practitioner how professionals think in action* New York Basic Books
- Schon, D (1987) *Educating the reflective practitioner toward a new design for teaching and learning in the professions* San Francisco, Ca Jossey-Bass
- Schon, D (1991) *The reflective turn case studies in and on educational practice* New York Teachers College Press
- Smith, L M (2005) Anomalies, exceptions, and creativity a perspective from Darwin's natural history *Perspectives in Education* 21, 69-86
- Smith, L M (2005) Teaching art or science?—a dialogue *Perspectives in Education* 21, 201-210
- Smith, L M (In Process) *Nora Barlow and the Darwin legacy* St Louis, MO Washington University

- Smith, L M & Geoffrey, W (1968) *The complexities of an urban classroom an analysis toward a general theory of teaching* New York Holt Rinehart and Winston
- Smith, L M & Hudgins, B B (1964) *Educational psychology an application of social and behavior theory* New York Knopf
- Smith, L M & Keith, P (1971) *Anatomy of educational innovation an organizational analysis of an elementary school* New York Wiley
- Smith, L M & Van Den Berg, O (2000) Review of Teaching public issues in the high school *Educational Action Research*, 8, 382-389
- Smith, L M & Wells, W (1997) *Urban parent education dilemmas and resolutions* Crssskill, NJ Hampton Press
- Strouse, J (Ed) (2001) *Exploring socio-cultural themes in education* Columbus Merrill
- Valli, L, (Ed) (1992) *Reflective teacher education cases and critiques* Albany, NY State University of New York Press
- Whyte, W F (Rev) (1955) *Street corner society* Chicago University of Chicago Press

Manuscript received on December 11, 2005

---

### **Publications Received**

- Chang-wai & Weekly, David E (2005) *Using new media* Geneva International Academy of Education, International Bureau of Education, Pp 23 (Also available on <http://www.ibe.unesco.org> )
- *Child's right to participation why what and how? State level report*, Chetna, Centre for Health Education and Nutrition Awareness, Ahmedabad
- *Educational Innovation and Information*, Number 119-120, April-August, 2005, International Bureau of Education, Geneva, Switzerland
- *Edutracks*, Vol 5, No 4, December 2005, Neelkamal Publications, Hyderabad
- *Edutracks*, Vol 5, No 5, January 2006, Neelkamal Publications, Hyderabad
- *Edutracks*, Vol 5, No 6, February 2006, Neelkamal Publications, Hyderabad
- *Education Today*, No 15, October 2005-January 2006, UNESCO, Paris, France
- *Journal of Community Guidance & Research*, Vol 22, No 3, November 2005 , Neelkamal, Publications, Hyderabad
- *NIER Newsletter*, Vol 37, No 3, November 2005, National Institute for Educational Research, Tokyo, Japan



## ***‘Value-added’ Indicator for Indirect Assessment of Productivity in an Engineering College***

**S. SRIDHAR  
K. CHANDRASEKARAN  
A.H. SEQUEIRA**

*Academic institutions in the tertiary sector imparting education in the engineering field, are encountering a variety of challenges in attracting resources, students and faculty. The difficulty lies in attracting not only sufficient number of eligible students, but the best quality students. Students and their parents have their own way of ranking educational institutions based on published literature, articles and surveys conducted by different agencies. One of the indirect measures related to reputation and productivity of a college is the value-addition that a student gets while s/he studies for obtaining a degree. In other words, the placement records of an institution and the average salary package obtained by the students passing out can indicate this value-addition. This paper attempts to examine the ‘value-added’ concept as a measure for assessing the productivity of education imparted in an engineering college. Computations of value added index based on (a) future earnings of passing out students (b) operating costs of the college and (c) branch of study (whether IT or non-IT) are given for a batch of students.*

### **Introduction**

Students pursue engineering education for several reasons. Some of these could be

- (a) aptitude for engineering design, problem solving through analytical methods,
- (b) economic benefits that an engineering education brings to engineering graduates,
- (c) enjoyment of learning variety of subjects,
- (d) value of experience in a professional college, and
- (e) future opportunities to pursue higher education abroad

Majority of the students and their parents look at engineering education as an investment with expected returns. The investment is in human capital and the returns are in the form of higher earning capacity (Palacios, 2002). The term ‘human capital’ conveys the concept that an individual’s knowledge and skills are assets (Smith, 1981).

Concept of ‘value’ involves two aspects – qualitative and quantitative. This study deals only with the quantitative aspect, namely earning potential of a student.

coming out of an engineering college. Though outcome of a professional degree has several dimensions apart from salary or earnings component, like individual's contribution to industry or society by means of leadership, entrepreneurship, community services and human values etc., discussion in this paper is restricted to tangible aspects—salary and future earning potential till superannuation (or retirement).

### **Relationship between Educational Qualifications and Earnings of an Individual**

The systematic measurement of relationship between educational qualifications and earnings of individuals has been studied at least for 65 years (Friedman & Kuznets, 1945). Certain studies of recent past clearly indicated that education is an attractive investment for the individual (Psacharopoulos, 1994). A Special Study Report by the US Census Bureau explores the relationship between educational attainment and earnings and demonstrates how the relationship has changed over the last 25 years. Additionally it provides, by level of education, synthetic estimates of the average total earnings adults are likely to accumulate over the course of their working lives (Jennifer & Newburger, 2002). 'Synthetic estimates' of work-life earnings are created by using the working population's one-year earnings and summing their age-specific average earnings for people in the age range 25 to 65. The resulting totals represent what individuals with the same educational level could expect to earn, on average, in current monetary units, during a hypothetical 40-year working life. While many people stop working at an age other than 65, or start before age 25, the range of 40 years provides a practical benchmark for many people. According to a study in 1996 conducted by Frank Levy at MIT, in Cambridge, as reported by Anagnostopoulos & Lauren (1998), "education seems more closely tied than ever to an individual's economic success".

By 'value-addition' we are capturing "what is improved about students' capabilities or level of knowledge as a consequence of their education at a particular college or university" (Bennett, 2001). This improvement is tracked as a difference between their attainments when they have completed graduation and what they had already attained before entering the college campus. Further, when linked to earning potential, the 'value-added index' can be used for comparing the 'value-addition' offered in different colleges and in the same college between different branches or streams.

### ***Factors Influencing Future Earnings of Engineering Degree Holders***

Several factors affect future earnings of engineering graduates and post-graduates, the most important of which are

- (a) specialization or branch (whether IT or non-IT),
- (b) continuity in the same job or occupation (career path),
- (c) reputation of the college or university, and
- (d) motivation and effort put in the job by the individuals.

Here IT indicates computer science or engineering, information technology or science, electronics & communication branches of study. Non-IT indicates,

electrical engineering, mechanical engineering, civil engineering, metallurgical engineering and material sciences and mining engineering

Large differences in average work-life earnings among the educational levels (diploma, non-engineering degree, engineering degree, post-graduate degree, etc ) reflect both differential starting salaries as well as the disparate earning trajectories. Earning paths of individuals with higher qualifications vary sharply from those of employees with lower levels of education. There are few exceptions, particularly in entrepreneurial firms, where promoters who have innovative ideas but low levels of education, earn more than those who work under them (in spite of their higher qualifications). However, at all levels of ages, higher education equates to higher earnings, based on market dynamics. The huge pay packets being offered by software companies have toppled the synthetic work-life earnings particularly in the Indian IT sector. Engineering students of all branches compete for jobs in the IT sector because of the attractiveness of the IT sector in respect of earnings and growth over a period of time.

#### **Computation of 'Value-added' Index of an Under-graduate Degree in an Engineering College**

'Value-added' measures the individual's value through the salaries and pay packages offered by the industry or business or research organizations, as a result of his/her graduation from a particular university. This can be measured in several ways:

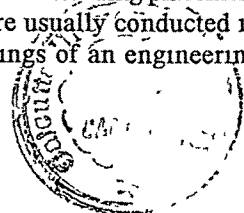
- a What is the 'value-added' component by an engineering college, compared to a science or arts or commerce college offering 3-year courses?
- b What is the 'value-added' component in the same college for the students from information technology (IT) stream and the non-IT stream?
- c What is the 'value-added' based on operating costs of the college?

To illustrate this, the value-added indicator of engineering students graduated in 2004 and employed in different types of companies or organizations is computed below.

#### ***Computation of Value-added Index Engineering versus Non-engineering Graduates***

The 'value-added' index would be the difference between the salaries an individual would accumulate over his/her service life (till retirement) after graduation from an engineering college and the corresponding accumulated salary of non-engineering graduate.

In 2000-2001, in the engineering college under study (Sridhar & Sequeira, 2004), number of students getting admitted to the 4-year undergraduate course was around 450. The number of eligible students for campus placements was 350 (taking into account students not reaching the cut-off marks for attending placement interviews, drop-outs and failed students). Placements are usually conducted in their final year, i.e. 2004. Table 1 shows the gross earnings of an engineering degree holder with certain assumptions.



For comparison, the future earning potential of students pursuing non-engineering degree course (like Bachelor of Science, Bachelor of Computer Applications, Bachelor of Commerce and Bachelor of Arts) was calculated (Sridhar & Sequeira, 2004) for the cohort of 2001-2004. A student opting for a 3-year degree course after 10+2 years of education would complete his/her studies at the age of 21 years. The total enrolment in the degree college, under study, in 2001 was 450. Dropouts and failed students in the final year 2004 equalled to 75 in all the streams. The number of students who obtained first class and above (60 per cent and above) in all the streams were 200. The future earnings have been calculated for this group of students only. Table 2 shows the gross earnings of a non-engineering graduate.

From Table 1 and Table 2, it is evident that 'value-added' indicator of an engineering degree holder from this college, compared to a non-engineering graduate is 30 times (over the entire service life), while it is 39 times when the salary in the 58<sup>th</sup> year is taken as reference.

**Table 1. Earnings of an Engineering Graduate Passing Out in 2004**  
(Earnings expressed in millions, M stands for million)

Average annual salary	Rs 0 3025 M
(the least salary for that year was Rs 0 18 M and maximum salary Rs 0 45 M)	
Age of the student at the time of reporting for job	22 years
Working life (assuming that s/he retires at the age of 58 years)	36 years
Total earnings at the end of 58 <sup>th</sup> year*	Rs 1240 375 M
Gross earnings in the 58 <sup>th</sup> year	Rs 208 93 M

\*Total earnings include all perquisites, employee stock options, incentives etc., and an assumption is made that there is 20 per cent increase in salary per annum.

Source: Sridhar & Sequeira (2004)

**Table 2. Earnings of a Non-Engineering Graduate Passing Out in 2004**  
(Earnings indicated in millions, M stands for million)

Average annual salary	Rs 0 06 M
Age of the student at the time of reporting for job	21 years
Working life	37 years
Total earnings at the end of 58 <sup>th</sup> year#	Rs 40 9329 M
Gross earnings in the 58 <sup>th</sup> year	Rs 5 3558 M

(Assumptions: Earnings of those students who graduated with first class and above are calculated)

# An increase of salary at 10 per cent per year of service up to 10 years and 15 per cent for the remaining service life is considered. Other benefits like bonus, perquisites are taken into the computation.

(Source: Sridhar & Sequeira (2004))

If the exact figures are taken into computations, instead of average salaries, it can be inferred that actual 'value addition' at the end of 36 years of service of an engineering degree holder from reputed colleges would be in the range of 39-45 times more than a non-engineering graduate. Actual figures may vary based on certain factors like, whether the graduate is from IT stream or non-IT stream and

the company or firm or industry in which s/he is placed. However, these computations do not take into account job hops, entrepreneurial activities undertaken in the mid-life or non-conventional modes of earning.

***Computation of 'Value-added' Indicator in the Same Engineering College between Students of IT and Non-IT Streams***

This computation is based on a premise that IT students need to spend more than non-IT students, in terms of possessing personal computers, peripherals, internet connectivity and latest learning materials. The survey results are tabulated in Table 3.

**Table 3. 'Value-added' index for IT and non-IT students in an Engineering College (based on expenditure)**

Stream	Average expenditure per annum, Rs M	Average expenditure for 4 years, Rs M	Average salary of 2005 batch, Rs M	Value added
IT	0.042475	0.1699	0.325	1.91
Non-IT	0.034465	0.13786	0.185	1.34

The expenditure per annum does not include boarding charges. It takes into consideration tuition fees, books, computers and peripherals and pocket expenses.

(Source: Sridhar & Sequeira (2004))

The 'value-added' index is computed by the formula—

Average 'value-added' index = Average annual income/average expenditure for 4 years

Therefore, the average 'value-added' index for IT students is 1.43 times more than that of non-IT students. This higher value addition in IT branches is one of the main reasons for students choosing admission into IT branches and non-IT branches getting less number of students than the sanctioned strength.

***Computation of Value-added Indicator based on Operating Costs of an Engineering College***

A typical engineering college, which has been offering several courses both at the under-graduate (with full time enrollments of about 450) and post-graduate levels (with full time enrollments of about 200) for over ten years, incurs operating cost of about Rs 9.5 Million (M) per annum. This could vary based on types of courses, existing infrastructure, salaries offered to the faculty and facilities offered to students. Supposing that 350 under-graduate students and 150 post-graduate students got successfully placed in IT and non-IT sector, the total earnings per annum offered to the under-graduate students, based on an average salary of Rs 0.3025 M and that offered to the post-graduate students based on an average salary of Rs 0.3725 M amounts to 161.875 M. The 'value-added' in this case amounts to 17 times the operating cost of the college.

***'Value-added' Indicator in Engineering Schools Abroad***

For a large engineering school, the annual value-addition varies from \$ 600 M to \$ 1200 M and the annual operating costs range from \$ 15 M to \$ 30 M (8). Thus the

annual value added for an engineering school is 20 to 40 times its annual operating costs and engineering education by this measure is one of the society's most productive activities. In spite of this high 'value-addition', the policy makers and the society expect the technical education system to further increase its productivity.

### **Limitations of the 'Value-added' Concept**

Though 'value-added' approach seems to be easy to state and compute (with certain assumptions), it is difficult to measure the productivity of an academic institution through such an index alone. This approach may not be suitable for assessing productivity for all institutions and for all situations, because of the following reasons:

- (i) Value, by itself, has several dimensions. No college or university attempts to build up only a single capability or skill in students. Each institution tries to develop a mix of capabilities and skills based on the core strengths of faculty and the institution. In order to capture these dimensions of value (added by the various capabilities), different measures of 'value-addition' are required to be developed. The institutions can then be invited to select those measures that reflect their intentions or goals,
- (ii) Academic institutions differ in various aspects—some excel in teaching undergraduate courses, while some other in post-graduate and research, some may offer unique courses with the collaboration of local industry and thus get high ratings and higher placements, some may excel in inter-disciplinary courses, while some others may offer courses in collaboration with foreign universities. This diversity in institutions leads to different kinds of 'value-addition,
- (iii) There is considerable time lag between effects of technical education getting manifested. Some consequences of technical education may take years to yield tangible results (those who seek higher education or pursue research, may not begin earning immediately after leaving the college portals),
- (iv) The input variable—students entering the portal of a college—itself is complex in nature based on the Intelligence Quotient, type of schooling prior to the entry, family background, learning atmosphere, type of competitive entrance examinations to enter an engineering college, etc. Similarly, the output variable—engineering students passing out of the portals—cannot be simply limited to future earnings or salary. There are several ways in which some of these engineers contribute to the industry and society, by means of service, innovations, leadership qualities, entrepreneurial activities, etc. Further, there could be influence of several other intervening variables like, learning capabilities, ability to cope with changes in learning environment, sudden exposure to new place and contexts and separation from secure family set up when 10+2 students join an engineering college,
- (v) Estimates assume that the current cross-sectional earnings are representative of the patterns in future earnings (this is not always true, as evidenced by the drop in salaries for IT executives soon after the dotcom burst and 9/11 incident),

- (vi) These estimates do not account for any future productivity gain/loss in the economy and, therefore, the estimates may be very conservative,
- (vii) Estimates assume uninterrupted employment from graduation to the age of retirement 58 years,
- (viii) There could be dramatic changes in synthetic estimates of future earnings because of macro-economic changes (both in global context and the national context) and changes in political scenario in the country. Fluctuations in future earnings due to such changes are not considered in the computations

### Conclusions

The 'value-added' concept is simple and straight forward, though it is valid under certain assumptions. It gives a range of numbers with which to compare engineering colleges and universities. Many of the technical criticisms of 'value-added' approach are valid. However, these deficiencies hardly outweigh the benefits to be reaped from being able to measure and reward productivity in an engineering college. Unless productivity is measured, however, inaccurately and imperfectly, it is not possible to reward faculty, staff, administrators and institutions that contribute most to student learning outcomes. Currently, promotions and salary hikes are based on seniority of faculty and their acquisition of higher degrees (like Ph D). These characteristics are weakly related to student achievement or process outcomes in technical colleges and universities. Development of 'value-added' assessment is a step in computing indirectly productivity of a college and comparing colleges offering same kind of courses.

### References

- Anagnostopoulos, C N & Lauren, A W (1998) Few gold stars for pre-college education *IEEE Spectrum Newsletter*, April, 35, 4, 18-26
- Bennett, Douglas C (2001) Assessing quality in higher education *Liberal Education*, 87, 2
- Friedman, M & Kuznets, S (1945) *Income from independent professional practice* Cambridge, Mass: National Bureau of Economic Research
- Jennifer, C D & Newburger, Eric, C (2002) The big pay-off: educational attainment and synthetic estimates of work-life earnings *Current Population Reports: Special Studies* U S Census Bureau <http://www.census.gov/prod/2002pubs/p23-210.pdf>, accessed on 23 January 2005
- Palacios, Miguel (2002) Human capital contracts—equity-like instruments for financing higher education *Policy Analysis*, 462, 1-12
- Psacharopoulos, G (1994) Returns to investments in education: a global update, *World Development*, 22, September, 1325 – 43
- Smith, Adam (1981) The Glasgow edition of the works and correspondence of Adam Smith, Vol II. In R H Campbell & A S Skinner, (Ed.) *An inquiry into the nature and causes of the wealth of nations* Indianapolis: Liberty Fund
- Sridhar, S & Sequeira, A H (2004) Assessing productivity in technical education through value-added approach. Procedure of the National Seminar on "Building National Competitive Advantage through Technical Education", 29-30 November, S1-01, Bangalore

Original manuscript received on October 25, 2005

Revised manuscript received on December 14, 2005

## ***Quality Concerns in Education at Different Stages and Its Commercialisation***

**RAINU GUPTA**

*This paper elicits the quality concerns in education at different stages and the impact of commercialization on them. The case for subsidizing education is based on the fact that it is a mixed good yielding social as well as individual returns. In order to justify the commercialization of higher education, it is argued that it does not yield much in terms of social returns, so, it is set off against school education. Due to commercialization the cost is increasing and a large part of it is being shifted to the learners in the form of high fees. The control of the government is decreasing. The quality is deteriorating. Quality needs to be ensured and insisted upon at every stage of education.*

### **Introduction**

Indian education system stands on an experimental basis since independence. It is the outcome of several education commissions and committees set up by the government. Quality of education can be measured very precisely. However for measuring anything, we have to define that thing first. We must be clear about what quality of education means.

Quality is a concept, which cannot be defined in simple terms. It is a qualitative term. As far as physical commodities are concerned, quality has been ensured either by the Bureau of Indian Standards or Agricultural mark, i.e. BIS or Agmark, FPO for the industrial and agricultural production respectively. The consumers are to observe that whether the authorized mark is found on the goods or not. But as regards to a qualitative factor, such as education, the same process cannot be applied. When an educationist poses a question to the consumer, how he would assess standards in education, the reply clearly accounts for the success of the candidates selected in Indian Institutes of Technology (IITs), medical, engineering colleges, Indian Administrative Services (IAS), etc. In certain quarters, quality of education is measured in terms of communicability in English, whereas in professional institutions, the success lies in the placement in reputed companies. The quality of education in all its aspects should aim at a situation where people can achieve excellence. Everyone should be able to achieve learning outcomes that are recognized and can be measured, particularly with regard to literacy, numeracy and other skills essential for life.

Ahmed (2005) has rightly remarked, "*Education is a liberating force. It is also*



*a democratizing force, cutting across the barriers of caste and class, smoothing out inequalities imposed by birth and other circumstances* ” This statement is fully applicable in the present global market. A new pattern ad design has been developed during the last ten years in our country. Every child is a potential human resource that can bloom and blossom to spread its fragrance or mature to yield fruits according to its innate nature on being cultivated properly by the process of education. From this point of view, entire education is an integrated process that may be deemed divided into stages for convenience as elementary, secondary, higher secondary and tertiary.

Quality needs to be ensured and insisted upon at every stage of education. As pointed out by Chatterjee (2005), “ *The super structure of quality tertiary education can be built only upon the foundation of quality elementary education and the base of quality secondary education* ” In a broader sense, education is a process of human empowerment, quality pertains to what the learner has actually learned. Quality resides with in the learner but influenced by a set of outside factors at every stage as

— *Good teaching* Well trained teachers who are paid adequately, using methods focusing on the learners’ needs,

— *Well equipped institutions and learning centers* Books and other materials and equipment available to stimulate learners,

— *Safe institutions* Places where every learner, especially girls, is safe from danger or harassment,

— *Enough instruction in the right languages* An adequate number of hours each week and each year, using the learners’ own language and introducing other languages that they need,

— *Relevant and useful curriculum* Learning based on what learners find in their local environment and focused on broader knowledge and competencies which they can apply in their lives, and

— *Well managed institutions* Local boards and committees where parents and community leaders can make sure the school serves their children well and has the resources it needs,

Above all, a quality education should be accessible to everyone, not only to a few people or at a few places. A high quality education should not be just for elites or for those in large towns indeed it should be accessible to the poor and disadvantaged, which will make the biggest difference.

Of the various factors, which are publicly identified as constraints in the way of achieving qualitative improvement of education, financial provision is mostly highlighted. The focus on the quality of education has necessitated the need for educational institutions to become a knowledge enterprise that has to operate in rapidly changing environments—globalization of trade, global revolution in information and technology and conflicting demands of industry and institutions vis-à-vis growing unemployment rates, need for well-trained professionals, high running cost of universities and professional colleges and a new global market for higher education. The changes in global environment thus open up challenges of

globalization of economy, knowledge, society and demand for higher education both in terms of quality and quantity. This is going to further escalate because of higher ambitions of parents, young boys and girls and also more sophisticated manpower requirements of the changing market trends. These dramatic challenges pose serious questions for higher education, particularly professional education, urging educational planners to rethink the way education is to be perceived and managed.

### **Commercialization—A Natural Evolution**

Ever since the initiation of economic reform policies in the last decade of the 20th century, Liberalization, Privatisation and Globalization (LPG) has become the *mantra* of progress for our country. In view of the tremendous pressure on total educational knowledge enterprise for higher and professional education in particular, commercialization is not an option but a natural evolution. The impact of this is that education has now become a free trade and the students who are receiving education treated as customers. The earlier system, where the state and charitable institutions came forward to open new educational institutions, is obviously unable to cope with the rising demands of a high profile professional education. The infrastructural, managerial and financial requirements coupled with a high yielding entrepreneurship has made the private sector to take a direct plunge into the educational enterprise, may be the process is still in its infancy. However, a big leap has already been made and the forces of demand and supply will sooner or later bring the required semblance to the system. Nicol Stephen, Deputy First Minister and Minister for Enterprise and Lifelong Learning, Scotland shared some of his plans vis-à-vis the education scenario in a freewheeling interview with Nalini Menon, (Hindustan Times, Nov 16, 2005). He stated that with geographical boundaries becoming more and more blurred and technological innovations changing the very nature of learning, the student is confronting with many new and exciting changes. International players are flocking to the Indian market and literally wooing the Indian student who now finds he has a plethora of study opportunities abroad with some hot and happening programme on offer.

A look at the possible contribution towards commercialization that can make to higher education enterprise as a whole may generate a lot of hope for the future of higher and professional education. However, a closer look, at 'what is' as different from 'what should be', spells doom—the future of higher education seems bleak. Following are the major concerns of defective and/or ineffective privatisation in school education, higher education, teacher education and other professional courses, such as adverse effects on quality of education, withdrawal of government and increasing commercialization in education. Privatisation and commercialization are the two sides of the same coin.

### ***Forces of Commercialization***

The effect of commercialization due to Globalization, Liberalization and Technological and communication revolution on the quality in the field of education at different stages is discussed below.

## School Education

### *Elementary Education*

In the 20<sup>th</sup> century, education was treated as a fundamental right for all people. A worldwide attempt was made to make education available to all at this level irrespective of caste, creed, gender or colour. Many countries of Asia and Africa devoted sufficient amount of money towards this goal. Developed countries achieved this target in the first half of the century and continued their efforts, while some developing countries including India are still lagging behind for various reasons.

Recently introduced in the 21<sup>st</sup> century Sarva Shiksha Abhiyan (SSA) programme is the latest scheme of Human Resource Development Ministry for its implementation all over the country for improvement of human capabilities in all children through provision of community-owned quality education in a mission mode. It is a time-bound programme to provide relevant elementary education for all children in the age group of 6 to 14 by 2010 as mentioned by Gupta (2003). More often than not the Govt. schools are found running in impoverished conditions. In many schools students of three to four classes are grouped together on bare rough floors under dilapidated roof or to spread out on open dusty lands. The teachers are required to handle two or three classes together, because the sanctioned posts of the teachers remain vacant for long due to whimsical policies of appointments and transfers. Teachers are drawn for other duties like revision of electoral rolls, below poverty line surveys, human and cattle census, public distribution system cards, family planning campaigns and so on. The rate of dropouts is significantly high in govt. schools. The quality of education imparted by such schools can well be imagined. In spite of the projects and plans implemented for qualitative improvement of elementary education two types of systems are observed: the traditional state level system and public schools. The public schools preferred by rich people of the society are in full motion by recruiting qualified trained teachers, by providing modern technical teaching aids and such other facilities for qualitative improvement.

As far as the quality is concerned it has been improving in these schools as an impact of privatisation/ commercialization at this stage. The basic training of discipline and smartness for self-presentation has made most of the students quite capable to face the challenges to come. But this type of improvement is seen in rural India because the role of voluntary, non-government institutions is not so positive and continuous.

### *Secondary Education*

An informal survey conducted by the author on teachers from 16 senior secondary schools with interactive open-ended responses indicated that the prevailing system of school education fails to provide sound foundation of quality higher education. The 21<sup>st</sup> century was thought to be the century for reorganization of secondary education. Hence, emphasis on the quality of secondary education and need for preparing ourselves to meet the challenges of the 21<sup>st</sup> century assume a special significance. There is need of massive changes at this stage for qualitative improvement.

The students at this stage may be seen going invariably to parallel coaching centers that are treated as gateways for admission to higher professional courses. Many differences are seen between the students studying in public schools and govt schools as well as aided schools. From the quality point of view there is much lacunae in different areas as a Rigidity in curriculum b Traditional methods of teaching c Accountability of teachers d Faulty evaluation system e Poor infrastructure facilities and f Ineffective organization and administration.

The quality of secondary education not only affects the preparedness of the learners for receiving and assimilating tertiary education but also influences the quality of life of citizens in general. Commercialization increases the opening of more private institutions as well as coaching centers so that pupils may be prepared to take admissions anywhere in the world. The impact of this is that education is becoming more and more costly which is out of the reach of a poor person.

### Higher Education

#### *General Education*

Ahmed (2005) quoted in his article that according to UNESCO, World Education Report, 2000, since independence, growth of higher education has been very fast. There has been rapid expansion in the number of universities as well as colleges but in real sense about 6-7% of the eligible age group (18-23) are getting its benefits and out of this more than 80% students are in general education, while this figure remains only around 30% in developed countries (UNESCO, 2000).

Since independence, and even before, a number of committees and commissions as appointed from time to time by University Grant Commission (UGC) and the declaration of UNESCO on higher education for the 21<sup>st</sup> century at the World Conference on Higher Education held in Paris in October 1998 recommended many desirable changes in structure, functions and actions. Yet in reality, it has deteriorated in terms of its quality and relevance. It indicates the fact that there is a need to bring desirable changes in higher education system namely input, process, output and feedback. The quality concerns about higher education are a Use of educational technology b Quality assessment by internal cells c Resource mobilization d Curriculum development e Faculty improvement programmes f Linkage with industries and g Quality Improvement of research.

A survey was conducted by Narayanan & Bhavani (2005) on the teachers from 46 higher educational institutions to find out the quality concerns and suggested that if the universities and colleges do not prepare themselves as per concerns, they will face many serious problems in the coming future.

Commercialization in the field of general education is not improving the quality of education but increasing the quantity. The students coming from the village sector as well as from the government schools usually take admission and after getting degrees at the end of stipulated period start job hunting. The quality of education of this group is of general nature, full of some subject-oriented information and without any social relevance.

*Professional Education***Technological and management education**

Quality improvement in these two areas of education mostly depend on quality of faculty, modernization of resources and technological up gradation, relevance and flexibility of curriculum, interaction with industries, job training and placement programmers. Institute-industry relationship should be strong ends sustainable with sufficient involvement of management departments to control quality of products according to social and national needs. Concerned institutes should gather funds by raising fees, co-operation of industries and by mobilizing other resources for utilization of funds for quality improvement and management. As the number of institutes is increasing day-by-day, the quality is deteriorating. Some institutions as Indian Institutes of Management (IIMs) are collaborating with the foreign universities, which is a major step towards reinforcing links and mutual understanding of the Indian and European environments. There are few such examples, otherwise the institutions are not rising up to the mark that they should.

**Teacher Education**

For quality improvement of education as a whole, the area of teacher education deserves special consideration. Teacher educators are the knowledge workers in this 'work-in-progress society'. They need to be familiar with 'know what', 'know why', 'know how' and 'know who' of creating, sharing and using knowledge for development and a need to manage it effectively to capture its full benefits. They sensitize teachers to the goals of this society, which requires significant investment in harnessing skills, technology and learning to become its changed agents.

The quality concerns of teacher education are as under

- Differentiation in course curriculum and duration
- Unbalanced theoretical and practical portions
- Lack of technological support
- Use of traditional methods of teaching
- Unidentical standards of teacher training institutes
- Lack in qualitative improvement of teachers
- Organization of pre-service and in-service training
- Orientation to research work

There has been a phenomenal expansion of teacher education during the post-independence period, so much so that during the last decade, government found it difficult to finance the setting up of new colleges. Therefore, universities and colleges are being encouraged to start new courses as recommended by the Gnanum Committee and Punnayya Committee (Singh, 2003) to start new courses generating their own resources, thus ushering in an era of self-financing schemes for starting useful and professional courses in teacher education. Most of the operating revenues for self-financing courses and institutions come mainly from tuition and other types of fee. Now-a-days these institutions are coming up in large numbers and

B Ed courses are becoming more popular because of the focus on universalisation of elementary education and right to education which will promote job opportunities for teachers. There is a danger that the self-financing colleges may attract students having less ability but more payability. Some educational thinkers oppose the self-financing aspect of teacher education because of the chances of ills of commercialization and corruption creeping into this system.

At the stage of professional education commercialization has much impact. There are reports about the deteriorating quality of education in some of the privately run institutions, which is alarming (Singh, 2003, Gupta, 2004, Sharma, 2005, Singh, 2005 and Narayanan, 2005).

Some of the areas are as follows:

- ❑ Auctioning of NRI seats
- ❑ Selling of payment seats
- ❑ Charging hostel and mess fee higher than market rates
- ❑ Charging penalty fee for absenteeism
- ❑ Pricing high the publications—prospectus, magazines
- ❑ Charging registration and admission fee extra
- ❑ Getting donations
- ❑ Rising number of educational institutions
- ❑ Similar degree provided by the institutions of different standards
- ❑ Severe competition from foreign institutions, which have superior “image”
- ❑ Increase in sub-standard affiliated institutions
- ❑ Relevance of programmes becomes market-driven, not culture-driven
- ❑ Business orientation through easy-study, easy-pass models
- ❑ Subordination to foreign/commercially stronger institutions
- ❑ Organizational failure (like lack of clear goals, infrastructure, quality consciousness, funds constraints)
- ❑ Financial strain leading to fee-hike
- ❑ Interference of pressure groups for seats and jobs
- ❑ Power of teachers is subordinated to the operators of self-financed institutions, causing lack of self-confidence

It is learned that a series of proposals is under consideration of the World Trade Organization to ensure that the process of export and import of higher education is covered under its complex rules and legal arrangements. If WTO and similar organization at the national level come in the picture, education will be subjected to free trade. This kind of commercialization implies devaluation of the social benefits of education, and individual returns would acquire greater significance. The logical implications of commercialization are that the beneficiaries of education should pay for it like they pay for electricity, telephone and other services. Chauhan

(2002) said that educational institutions would function like business concerns looking for 'buyers' of their 'products' all over the world to increase their profits

Thus commercialization does not seem satisfactory because there is mushrooming growth of self-financed institutions and profit making is their sole aim. They are spending huge amounts on advertisements in order to attract students who can pay for their education. Many of these institutions are running in the buildings without having proper rooms and space but this is not the problem at the school stage. The problem at the school level lies with the charges because they demand very large amount from the students as donations. At the college level the quality is suffering because most of them are distributing the degrees and certificates without developing the requisite skills and training of the respective profession. It is the higher education that produces the intellectual capital and knowledge relevant to a society to lead it towards better future, where it can compete globally. The commercialization in higher education starts because the govt. is withdrawing its hands from it, whereas it is primarily a state responsibility even in a country like the USA, which has free market economy and follows an ideology of privatization. According to M. Glen Johnson, the govt. directly supports 78% of the total enrollment in public institutions in the USA (Sharma, 1996). So, if a country like the USA cannot afford to leave the question of either access or of the quality of higher education to the free play of market forces, how can the govt. of India?

The World Bank (1994) in its report declared higher education as a 'non-merit good' whereas school education was put into the category of 'merit good' (The World Bank, 2002). In fact, it was contradicted by its own Task Force (2002). In its new Report (2002) the World Bank has since been forced to revise its earlier definition of higher education as it came under severe international criticism. In fact, it was contradicted by its own Task Force. In its new Report titled 'constructing knowledge societies: new challenges for tertiary education', higher education is now again classified as a 'Public Good'. On the basis of above said deterioration in the quality of education at different stages due to commercialization, it should not be concluded that the education system in totality should be in the hands of the government. It is not possible for the developing countries like India due to paucity of funds. If we want to make these institutions effective then the institutions like State Council of Educational Research and Training (SCERT), National Council of Educational Research and Training (NCERT), All India Council of Technical Education (AICTE), National Assessment and Accreditation Council (NAAC), National Council of Teacher Education (NCTE) and Indian Medical Council (IMC) should monitor and evaluate their performance objectively. The control of the government should remain on these institutions so that they may not work only with the profit motive. The working of these institutions should be transparent from every angle.

### Conclusion

Today we are poised for a very unique opportunity. Dutta (2005) cited that almost every economist, industry expert, business person and management guru is expressing that by 2020, India can be among the top two superpowers in the world in terms of

(Continued on page 127)

## ***Relationship between Reading Comprehension and Mathematics Achievement of English and Hindi Language Medium Schools***

SWATIPATRA  
SWATIKHATRI

*The present study attempted to examine the relationship between reading comprehension and mathematics achievement of Grade V students of English and Hindi Medium Schools. A sample of 80 students, 40 each from English Medium and Hindi Medium schools was selected. The sample was controlled with regard to intelligence and socioeconomic status. Tests of intelligence (Raven's Coloured Progressive Matrices Test) and reading (Passage Comprehension test) were administered to the sample. Mathematics achievement was assessed from the mathematics marks obtained by the students in their class IV Annual examination. Results pointed out superiority of English medium children in reading comprehension and mathematics achievement. However, when the relationship between reading comprehension and mathematics achievement was considered, the analysis revealed a significant relationship between reading comprehension and mathematics achievement for both the English and Hindi medium groups.*

### **Introduction**

Language learning at the primary stage is crucial not only for meaningful learning in all subject areas but also for the learners' emotional, cognitive and social development. New entrants with poor language background remain poor learners and poor performers in all areas unless specially helped in language skills. Failure to teach language skills properly and adequately in the early years will lead to difficulty in learning subsequently through the upper-primary and secondary stages. Language education has the greater potential as a means to develop, progressively through various stages, attitudes and values related to all the core components by incorporating appropriate themes and adopting suitable teaching learning strategies. Of the four language skills, listening and reading are receptive skills whereas speaking and writing are productive skills. The basic aim of teaching any language is to develop in the student the skills of listening, speaking, reading and writing.

Reading is a complex cognitive skill which plays an important role in scholastic achievement. The importance of reading lies in the fact that the child must first learn to read so that he can later read to learn. Reading is the process of constructing meaning from the printed text through a dynamic interaction among the reader, the text and the context of the reading situation (Lerner, 1990). A child's



reading achievement consists of both the process of identification or recognition of words, independent of any context, and the process of comprehending a sentence or paragraph. The former is termed reading decoding and the latter reading comprehension. Skilled reading requires an individual not only to decode the words successfully but also to comprehend the material in a meaningful way. Hence decoding and comprehension ability are complementary to each other.

Reading comprehension is important in school achievement. Reading is the process which enables the reader to understand the phonological, lexical and sentence structures of the written language and coordinate these featural information with the goal of extracting meaning of the text. Apparently, deficit in these skills give rise to difficulties in reading. Reading is a complex process of comprehension and evaluation involving cognitive operations like problem solving and decision-making. Guzak (1967) outlines the major skills in reading comprehension as locating information, remembering, organizing, predicting outcomes, extending ideas and critically evaluating. Smith (1963) suggests that there are three levels of comprehension: literal, interpretive and critical. Literal reading refers to getting full and accurate meaning from the lines. Critical reading involves the ability to read carefully and to react intelligently to the presentation of the author. Interpretive reading not only involves the previous two levels but also requires a sensitiveness and involvement on the part of the reader. Zintz (1970) has also classified the comprehension skill as literal and as interpretive. He sees critical reading ability as the "application of these skills in reading and applying judgemental, evaluative and selective skills while reading."

An issue of considerable research interest here is to find out how reading comprehension is related to mathematics achievement when different languages are used as the medium of instruction in schools. Language plays an important role in mathematics achievement of children. The National Policy on Education (NPE, 1986) has rightly visualized mathematics as a vehicle to train a child to think, reason, analyze and articulate logically. At the primary stage, the learning of mathematics is expected to lay the foundation for mathematical thinking, about the numerical and spatial aspects of the objects and activities, which the children of this stage are required to deal with. The learning experiences in mathematics at the primary stage should enable a child to master basic mathematical vocabulary, symbolism and computational skills related to numbers, money, time, measures of length, mass, and volume etc. and to apply them to everyday problems in their environment. In lower classes the emphasis is more on language component in understanding mathematical problems as compared to higher grades where it is based more on symbols. The child has to first comprehend the language in which the mathematical problem is expressed to solve it properly. Hence reading comprehension becomes important in mathematics achievement.

Research literature (Eagle, 1948, Johnson, 1945, and Streby, 1957) indicate that many problems in mathematics are due to reading difficulties. Rangappa (1992) investigated the relationship among self concept, reading ability and achievement in mathematics. He found no significant difference in the achievement of students having different levels of self concept, but significant difference was observed in

the mathematics achievement of students having different levels of reading ability Singh and Verma (1992) studied the attitude towards mathematics as a function of some individual characteristics such as sex, age and intelligence. They found that students of lower age group (10-13 yrs) and students with average and high intelligence showed more favourable attitude towards mathematics as compared to students of higher age group (14+ & 15+ yrs) and lower intelligence. However, attitude towards mathematics was independent of sex. Smith and Hedden (1964) report readability problems with primary grade mathematics textbooks. They point out that new methods and materials are irrelevant if the student cannot read his text. Another study by Betty (1971) on mathematics word frequency suggests that mathematics terminology may be unduly large for average readers in grades one, two and three. Much of the research concerning reading problem in mathematics has focused in the area of readability (Donovan, 1957, Kane, 1969). These studies indicate that the technical vocabulary load may be the source of some major reading problems. Difficulty in reading in turn will hamper the child's achievement in mathematics.

An issue of interest here is the language in which the child reads. The language, which is used as the medium of instruction, affects reading comprehension in that language. And in earlier stages of schooling reading comprehension affects mathematics achievement of children as it lays more emphasis on verbal communication. Hence the present study attempts to find out the relationship between reading comprehension and mathematics achievement in relation of the language of instruction or medium of instruction.

### **Objectives of the Study**

- 1 To find out the reading comprehension of Grade V English medium and Hindi medium students
- 2 To find out the mathematics achievement of Grade V English medium and Hindi medium students
- 3 To find out the relationship between reading comprehension and mathematics achievement of English medium students
- 4 To find out the relationship between reading comprehension and mathematics achievement of Hindi medium students

### **Method**

#### ***Sample***

A total of 80 students from Grade V (age group of 10-11 yrs) was taken, 40 from English Medium and 40 from Hindi Medium schools in Bhopal. All the schools were under the same Board i.e. Madhya Pradesh Board. The sample was controlled regarding intelligence and socio-economic status (SES).

#### ***Tests***

The subjects were assessed regarding their reading comprehension, mathematics achievement and intelligence.

### ***Intelligence***

Raven's Coloured Progressive Matrices (Ravens, 1998) was administered to the students. It consists of 36 items, 12 each in Sets A, AB and B. The students were asked to observe the geometrical patterns on each page and choose the correct alternative from among the answers given below which fits in the missing part and completes the pattern. Correct answers were scored one and wrong responses were scored zero.

### ***Reading Comprehension***

Passage Comprehension test (Woodcock, 1987) was given to assess the reading comprehension of students. The English version of the test was given to English medium students and its Hindi version developed by Das (1995) was given to the Hindi medium students. Both the adaptation of the test consisted of 68 items. The subjects were asked to read each sentence or item and then suggest an appropriate word in the blank space. A correct response was scored one and wrong response was scored zero.

### ***Mathematics Achievement***

To assess achievement in mathematics, marks in mathematics subject obtained by the students in their annual examination of Grade IV, were collected from the school record.

### **Results and Discussion**

A study by Thind (1990) regarding the impact of the socio-economic status of parents on the mathematical problem solving ability of school students pointed out that father's and mother's occupation had no effect on both rural and urban children's problem solving ability. Further, education of the father had no effect on the problem solving ability of rural as well as urban children. However the problem solving ability of urban children was affected by the mother's education. In the present study four factors were considered in Socio-Economic Status: (1) Father's educational qualification, (2) Mother's educational qualification, (3) Father's occupation and (4) Monthly income of Father. In educational qualification, following categories were taken: (1) Matriculation and +2, (2) Graduation and (3) Post Graduation. In Father's occupation, following categories were taken: (1) Govt. Job, (2) Private Job and (3) Business. Monthly income of the father was categorized into four groups: (1) Rs 4000–8000/-, (2) Rs 8001–12000/-, (3) Rs 12001–16000/- and (4) Rs 16001–20000/-.

Table 1 gives the means, Standard Deviations (SDs) and *t* values of English and Hindi medium students on the four factors of the SES variable. As can be seen from Table 1 there was no significant difference between Hindi Medium and English medium students with regard to the different factors of SES, i.e. father's educational qualification, mother's educational qualification, father's occupation and father's monthly income.

Thus it can be said that students of Hindi medium and English medium belong to the same socio-economic status.

**Table 1.** Means, Standard Deviations (SDs) and *t* Values of Grade V English and Hindi Medium Students (N = 40 in each case) on SES and Intelligence Variables

Variables	Medium	Mean	SD	df	<i>t</i>
Fathers' educational qualification	English	2.42	0.53	78	0.82
	Hindi	2.33	0.53		
Mothers' educational qualification	English	2.17	0.04	78	1.52
	Hindi	1.99	0.44		
Fathers' occupation	English	1.45	0.68	78	0.40
	Hindi	1.60	0.74		
Fathers' monthly income	English	1.48	0.78	78	0.00
	Hindi	1.40	0.78		
Intelligence	English	31.98	9.53	78	1.28
	Hindi	25.88	5.30		

To assess the intelligence of the students, Raven's Coloured Progressive Matrices was given. It was found that there was no significant difference between Hindi and English medium children with regard to intelligence (see Table 1). Findings thus indicate that Hindi and English medium students taken in the present study were comparable with regard to their intelligence and socio-economic status.

### Reading Comprehension

It was found that the mean of English medium children was 42.85 whereas the mean of Hindi medium children was 35.83 (see Table 2). The mean difference was found to be significant at 0.05 level. Thus English medium and Hindi medium children differed in their reading comprehension performance, with the English medium children performing better as compared to Hindi medium children.

**Table 2.** Means, Standard Deviations (SDs) and *t* value of Grade V English and Hindi Medium Students (N = 40 in each case) on Reading Comprehension given in their Respective Language of Instruction

Medium	Mean	SD	df	<i>t</i>
English	42.85	14.22	78	2.44*
Hindi	35.83	11.35		

\*  $P < 0.05$

### Mathematics Achievement

Table 3 gives the means, Standard Deviations (SDs) and *t* values of English medium and Hindi medium children in mathematics achievement.

It can be seen from the table that the mean of English medium children was 67.53 whereas the mean of Hindi medium children was 58.58. The difference was found to be significant at 0.05 level. Thus English medium children were better in mathematics achievement as compared to Hindi medium children.

**Table 3.** Means, Standard Deviations (SDs) and *t* Value of Grade V English and Hindi Medium Students (N = 40 in each case) in Mathematics Achievement

Medium	Mean	SD	<i>df</i>	<i>t</i>
English	67.53	16.75	78	2.39*
Hindi	58.58	16.73		

\*  $P < .05$ **Relationship between Reading Comprehension and Mathematics Achievement**

The main objective of the present study was to find out the relationship between reading comprehension and mathematics achievement of English and Hindi medium students. Table Nos. 4 and 5 give the relationship between reading comprehension and mathematics achievement of English medium and Hindi Medium students respectively.

**Table 4.** Correlation Table for English Medium Students

Variable	Reading comprehension	Mathematics achievement	Intelligence
Reading Comprehension	1.00	0.56**	0.08
Mathematics Achievement		1.00	0.05
Intelligence			1.00

\*\*  $P < .01$ **Table 5.** Correlation Table for Hindi Medium Students

	Reading Comprehension	Mathematics Achievement	Intelligence
Reading Comprehension	1.00	0.53**	0.51**
Mathematics Achievement		1.00	0.81**
Intelligence			1.00

\*\*  $P < .01$ 

The correlation between reading comprehension and mathematics achievement was 0.56 for English medium students whereas it was 0.53 for Hindi medium students, both being significant at .01 level.

Table 5 shows a significant correlation of intelligence with reading comprehension ( $r = .51$ ) and mathematics ( $r = .81$ ) for Hindi medium students, though it was not so for English medium students. This shows that intelligence is related to reading and mathematics achievement. However, since it is controlled in this study it can be said that the relationship between reading comprehension and mathematics achievement is not mediated by intelligence in the present study.

Results showed better performance by English medium students in comparison to Hindi medium students. This can be discussed from a perspective of bilingualism. In the case of English medium children, English is used as the primary formal mode of instruction. However, the verbal interaction of the students with the teachers and peers

at school were regulated by Hindi, which is their mother tongue. The process of verbal communication at school and home is thus governed by Hindi. Hence, they are in an advantageous position. The language skills learned in their mother tongue are transferred to their second language.

The Cummins (1979) theory of linguistic interdependence advocates that the school related aspects of proficiency in two or more languages are common or interdependent across all languages of the bilingual at the underlying level. Thus, the skills in the scholastic use of language, such as reading and comprehending text materials will generalize from one language (L1) to the other language (L2) provided the level of development in L1 is adequate. The proficiency of English medium Children in L1 (their mother tongue which is Hindi) is highly developed so as to generalize to and develop high literacy skills in L2.

Results thus indicate that language of instruction has an important role to play in students' performance which goes in favour of English medium. This can be explained by the fact that English being the language of instruction for these students gives more exposure and proficiency in the language. In addition, their exposure to Hindi language is also good, it being their mother tongue. Hence they are getting the benefit of learning two languages. It may be noted here that it is the proficiency in the language which is important and it is easier to achieve proficiency in one's mother tongue. Thus the language skills, for example, reading and writing acquired in one's mother tongue can afterwards be generalized to other languages. Results of a study by Patra and Dash (1999) on reading achievement of children with bilingual media of instruction point out better reading comprehension in the mother tongue, i.e., Hindi as compared to their second language English.

We can relate here the reading performance of the students to their mathematics achievement. Reading comprehension ability affects the mathematics performance of children. Findings of the study support this. English medium children have performed better in reading comprehension as well as in mathematics achievement as compared to Hindi medium children.

In lower classes, verbal ability is important for comprehending mathematics. Mathematical problems are given in words and language. Symbol is not much used which comes in higher classes. Hence understanding or comprehending the language is important for mathematics achievement at this stage. Findings support this. It can be seen from the findings that reading comprehension is significantly correlated with mathematics achievement in the case of both English and Hindi medium students.

Therefore, English medium students are in an advantageous position. According to interdependence hypothesis of Cummins, "To the extent that instruction in L<sub>x</sub> is effective in promoting proficiency in L<sub>x</sub>, transfer of this proficiency to L<sub>y</sub> will occur provided there is adequate exposure to L<sub>y</sub> (either in school or environment) and adequate motivation to learn L<sub>y</sub>" (Cummins and Swain, 1986). Thus what is important is not so much whether L1 or L2 is used for the initial instruction but the potential exposure to the language in the environment and motivation to continue developing it. English medium students have proficiency in Hindi, as it is their mother tongue. They also have proficiency in English as it is their medium of instruction. Hence their reading comprehension has

been found to be better as compared to Hindi medium students and consequently their mathematics achievement is also better as compared to Hindi medium students

This is not to deny the importance of mother tongue education. The crux of the thing is that one should have proficiency in the language which is used as the medium of instruction. Hindi is the mother tongue of both English medium and Hindi medium students. However, English medium children have the added benefit of having more exposure to English Language, it being their medium of instruction. And Hindi, being a majority language, is not in danger of replacement by L2 (English) which is not the case for minority language children. Thus English medium children have the double benefit of enjoying a majority language as their mother tongue and studying through English as their medium of instruction, which explains their better performance.

To conclude, it can be said that there is a relationship between reading comprehension and mathematics achievement and this relationship is mediated by the language of instruction. Proficiency in languages is related to scholastic achievement in different subjects like mathematics, social sciences and sciences. According to the National Focus Group on Indian Languages (NFGIL, 2005), primary education is essentially language education. Care should be taken to develop proficiency in the language used. The Focus Group has recommended that where qualified teachers and adequate infrastructure facilities are available, English may be introduced from the primary level. The National Curriculum for Elementary and Secondary Education (1988) also has said, if resources are available for teaching the second language in primary schools, the study of the second language may be introduced in a suitable grade/class at the primary stage. However, in this context, the recommendation by Kothari Commission (1966) still remains the best piece of counsel. *The stage at which Hindi or English should be introduced on a compulsory basis as a second language and the period for which it should be taught will depend on local motivation and need and should be left to the discretion of each state.* NCF (2005) has also advocated that every possible effort should be made to build bridges between the languages of home, peer group and neighbourhood on the one hand and school on the other. Even in English medium schools, mother tongues should be developed to function as a medium and allow the learners to switch from one medium to the other without change of school. Mother tongue/regional language should continue to be taught till all levels because high levels of proficiency in the mother tongue or language of the neighbourhood ensure better cognitive growth, foster healthier interpersonal communication skills and promote conceptual clarity.

## References

- Betty, William (1971) Reading in the content area: a new mathematics terminology list for the primary grades. *Elementary English*, 50, 274-289
- Cummins, J (1979) Linguistic interdependence and the educational development of bilingual children. *Review of Educational Research* 49, 222-251
- Cummins, J & Swain (1986) *Bilingualism in education: aspects of theory, research and practice*. London: Longman
- Das, J P (1995) *Hindi passage comprehension test*. Bhubaneswar: The Learning Clinic
- Donovan, Johnson (1957) The readability of mathematics textbooks. *Mathematics Teacher*, 50, 105 -110

- Eagle, Edwin (1948) The relationship of certain reading abilities to success in mathematics *Mathematics Teacher*, 41, 175-179
- Guzak, FJ (1967) Teacher questioning and reading *The Reading Teacher*, 21, 227-234
- Johnson, H C (1945) The effect of instruction in mathematical vocabulary upon problem solving in arithmetic *Journal of Educational Research*, 38, 481-498
- Kane, Robert B (1969) The readability of mathematics textbooks Paper presented at the National Council of Mathematics Milwaukee
- Kothari Commission (1966) *report of education commission* Delhi Ministry of Education Govt of India
- Lerner, J C (1990) *Learning disabilities* Boston Houghton Mifflin Company
- *National curriculum for elementary and secondary education* (1988) New Delhi National Council of Educational Research and Training,
- *National focus groups position papers, vol I, curricular areas* (2005) New Delhi National Council of Educational Research and Training,
- *National Policy of Education* (1986) New Delhi Ministry of Human Resource and Development, Deptt of Education, Govt of India
- Patra, Swati & Dash, UN (1999) Reading achievement of children with bilingual media of instruction *Psycho-lingua* Vol 29, 1, 19 – 24
- Rangappa, K T (1992) A study of self concept, reading ability in relation to achievement in mathematics of students of standard 12<sup>th</sup> Ph D Education, Bangalore University
- Ravens, J C (1998) *Ravens Coloured Progressive Matrices* (Indian Reprint) Delhi Manasayan
- Singh, R D & Verma, S C (1992) Mathematics as a Function of Intelligence, Sex and Age A Study of Attitude of High School Students *Indian Educational Review*, XXVII, No (1), New Delhi NCERT
- Smith, J K & Hedden, J W (1964) The readability of experimental mathematics materials *Arithmetic Teacher*, 11, 391-394
- Smith, Nila Banton (1963) *Reading instruction for today's children* (Chap 9) Englewood cliffs NJ Prentice Hall
- Streby, George (1957) Reading in Mathematics *Arithmetic Teacher*, 4, 79 – 81
- Thind, S K (1990) Effect of Parental Education and Occupation on the Mathematics Problem Solving Ability of Students of Grades 7<sup>th</sup> and 9<sup>th</sup> Independent Study Punjab Agricultural University 5<sup>th</sup> All India Educational Survey, Vol II
- Woodcock, R W (1987) *Woodcock Reading Mastery Tests – Revised*, Circle Pines, Minnesota, American Guidance Service
- Zintz, M V (1970) *The reading process* Chap 8 Dubuque, Iowa Wm C Brown

Original manuscript received on June 21, 2005,

Revised manuscript received on December 1, 2005



## ***Use of Internet Resources: A Case Study of a Nigerian University***

**IWHIWHU ENEMUTE BASIL  
AKPORHONOR BLESSING AMINA  
OBARO A. MORDECAI**

*This study is aimed at finding out the use of Internet resources by the faculty and students of Delta State University, Abraka Nigeria in the teaching/learning process. Lecturers and students of Delta State University, Abraka constituted the population of the study. The instrument used in collecting data for the research was the questionnaire. The data collected in the study were analysed using simple percentages. Findings revealed that majority of the respondents have knowledge of the Internet and benefitted from Internet services in the teaching/learning process. The Internet helped in the improvement and efficiency of academic activities leading to high productivity in higher education. It gave opportunity to view the whole world and collaborated with other researchers in one's field and obtained the most recent information in a research area. However, some students and faculty staff did not tap the resources that the Internet offers to boost the teaching/learning process.*

### **Introduction**

Over the past five years, schools have been rapidly acquiring access to Internet and telecommunications facilities in Nigeria. A close look at schools shows that they now have some sort of access to the Internet, with in their building.

The Internet otherwise called the "net" or "superhighways" means in full International Computer Networks. Graham (1993) defined the Internet as a "collection of computers around the world that can be connected to each other over the telephone line." He further said that the Internet itself does exist as a random collection of people, companies and organizations all joined together through the telephone (cable, supplied) system. Agba (2001) opined that the Internet is a worldwide system of computer networks.

It is also described as "a multimedia information superhighway that facilitates sports, politics, entertainment and other endeavours across international boundaries" (Okunna, 2002). In the same vein, Kimberly (2002) sees the Internet as "a network connecting many computer networks based on a common addressing systems and communication protocol TCP/IP (transmission control/internet protocol).

These networks are run by corporation, government and academic institutions and this high level of connectivity foster the degree of communication collaboration, resource sharing and information access. The Internet is like a room filled with many spiders, each spinning its own web. The webs are so interconnected that the spider can travel freely within this maze (Awake, 1997). This is a simplified view of the Internet. It is a global collection of many different types of computers and computer networks that are linked together. Just as the telephone ('cable', supplied) enables you to talk to someone on the other side of the earth who also has a phone (a 'cable connection', supplied), the internet enables a person to sit at his own computer and exchange information with other computers and computer users anywhere in the world.

Ibagwan (2002) noted that the Internet is "a world wide network of millions of computers linked together by telephone/cable lines world wide." It links thousands of universities, government and corporate networking and American On Line (AOL) with hosts of hundreds of databases. Stair and Raynold (1978) defined the Internet as a connection of interconnected networks, all freely exchanging information just as the road network links subscribers, the Internet is a network of communication systems. The Internet is therefore a global communication infrastructure, which enables any computer to communicate with other computer(s) connected to the Internet at electronic speed regardless of geographical location.

### **Future Prospect of the Internet in the Teaching/Learning Process**

The Internet has become an individual tool for learning, teaching and research (including collaborative research). According to the prediction of Alan Pritchard (1996) cited by Russel (2000), the Internet as a new technology will transform classrooms over the next 20 years and teachers will have to change their teaching styles and acquire Internet skills. Teachers will need to learn new skills to teach the students how to search for and use information from the Internet and about superhighway safety. Preston (1998) describes some of the information technology (IT) products that will be used in the classroom of the future to include electronic white boards, which will enable a teacher to write on the board in the conventional way while interacting with the computer at the same time, delivering of lesson notes in the form of interactive presentations, which will be projected on to the white board incorporating video, animation and sound, and Liquid Crystal Display (LCD) projectors, which will be used in a similar way to project video images and live television. Similarly, detachable Liquid Crystal Displays (LCDs) from laptop computers will be used to give presentations using an overhead projector. In order to use these tools effectively, the new set of skills that scholars must develop, therefore, include strategies to search for relevant materials, skills in using discussion forums and chat rooms, skill in evaluating the quality of documents found, knowledge of the web design, and a basic understanding of how to send e-mail attachment (Lacey, 1999).

According to Lacey (1999), few researches in developing countries have developed all of these skills mentioned above. However, Russel (2000), in his

report noted that some institutions of higher learning elsewhere are already advanced as users of information and communication technology (ICT), using cutting-edge technologies such as interactive whiteboards, posting curriculum and home work on the internet, and making use of video conferencing to share specialist teaching. To develop and/or expand research partnerships, it is however necessary to ensure internet access competence as this will help scholars to develop internet skills and competencies.

### **Teaching and Learning in Nigeria Universities and the Internet**

Nigerian universities have been practically decimated by the past two decades of economic and political upheaval. The Nigerian University system, once well respected around the globe and envied by others in Africa, has been reduced to a shadow of its former self. Now it is left to a new generation of university administrations and professors to rebuild their capacity and their reputation. Nigeria's much heralded return to democratic rule in 1999 has left many in the academic community hopeful that they will once again have the resources and the freedom to reinvent their teaching and research missions. Nigerian universities remain essentially unscathed by the digital revolution that has swept through academia in the past few decades.

There are now thousands of Internet 'home pages' which serve as information sources for institutions and organisations. Most universities, polytechnics and colleges of education throughout Nigeria have established their presence on the internet, thereby making it possible for researchers to access information on courses being offered by institutions and as well as their admission requirements. There are also numerous individual home pages, where people construct a site either as a means of expressing their creativity or for a very limited range of potential visitors. The World Wide Web also provides very easy access to some government documents and legislative materials. Cyberspace has become the virtual library and university to find all knowledge.

### **The Problem**

Considering the benefits accruing from the use of the internet and its resources, particularly for academic activities around the world and the problem of proliferation of information/internet connectivity, one wonders if the Nigerian university system has fully embraced the services for academic purposes, if researchers are abreast with and are taking full advantage of the net. Though the NUC have NUNET in place for all Nigerian universities, most universities in Nigeria are yet to embrace the application of ICT in their universities. The NUNET in every university is to provide the backbone for networking different university campuses and has been able to have a dial-up access to the NUC server for uploading and downloading. In the past while some universities were able to use one system to have this dial-up connection to the NUC, others could not, due to the lack of reliable telephone lines (mostly analogue) as well as other factors.

In view of these, it is necessary to undertake a study to find out the extent to which the internet has contributed to the teaching/learning process in Delta State.

University, Abraka

### **Objectives**

The focus of this study is to investigate the use of Internet in the teaching/learning process in an academic environment. The objectives include,

- 1 To critically examine the effect and benefits of Internet services to users
- 2 To investigate the prospect of Internet services to users
- 3 To evaluate how the Internet services can be used to improve efficiency and productivity in academic activities
- 4 To encourage its use for academic purposes being the most recent and easiest source of information for research and learning

### **Methodology**

The population comprised lecturers and students of Delta State University, Abraka. Two hundred (200) subjects were randomly selected from the five faculties of the university with a sample of forty (40) from each faculty. These are the Faculty of Arts, Basic Medical Science, Education, Science and Social Sciences. A total of one hundred and ninety-two (192) respondents were used for the study. A special questionnaire was used to collect data.

The two hundred questionnaires were administered to both students and lecturers of the five faculties. Twelve (12) questionnaires were administered to lecturers and twenty-eight (28) to students in various departments. Only 192 were returned, which were used for the analysis using percentages and pie charts.

### **Data Presentation and Interpretation**

#### ***Background Information***

The preliminary table shows that males constituted the highest respondents 102 (53.1%) while the females were 90 (46.9%). They ranged from ages 16 to 40, with the highest within age range of 21-25 years. Thereby analysis of background information indicated that making 74 (38.5%) of the respondents. This is as a result of the subject used being mostly undergraduate students. However, it should be noted that 132 students making 68.75% and 60 lecturers representing 22.25% responded to the questionnaires making 192 (96%) of the total questionnaires administered. Responses from both groups were treated as a single entity.

#### ***Computer Literacy and Use of the Internet***

The data in tables below show the level of knowledge of computer and the use of the Internet in the teaching and learning process in Delta State University, Abraka.

Tables 1 and 2 above shows that 184 respondents were computer literate (95.8%) and 178 (92.7%) used the services of the internet, eight respondents did not have knowledge of the computer making (4.2%), as a result, 14 (7.3%) respondents had not used the Internet before. The table shows that majority of the respondents had

knowledge of the computer and had benefited from Internet services

**Table 1. Computer Knowledge**

Response	No of Respondents	% of Respondents
Yes	184	95.8
No	8	4.2
Total	192	100

**Table 2. Use of Internet Services**

Response	No of Respondents	% of Respondents
Yes	178	92.7
No	14	7.3
Total	192	100

**Table 3. DELSU Use of Internet in Teaching / Learning**

Response	No of Respondents	% of Respondents
Yes	102	53.1
No	90	46.9
Total	192	100

From the above, it is seen that though some of the respondents eight (4.2%) in Table 1 were not computer literate, and were not able to use the internet services as in Table 2, indicating 14 (7.3%), a good number of the respondents confirmed the high percentage of lack of its use 90 (46.9%) in the teaching and learning process as shown in Table 3. Though 102 (53.1%) indicated that it was being used in the teaching/learning process, such response could be misleading as personal interactions show that the university have a cyber café mainly used for commercial purposes and not in the teaching/learning process.

**Table 4. Visitation to Internet Centres**

Response	No of Respondents	% of Respondents
Often	98	51.0
Not Often	18	9.4
Very Often	76	39.6
Total	192	100

Data in Table 4 shows that 98 (51.0%) of the respondents visited Internet centres often, 76 (39.6%) visited very often and 18 (9.4%) did not visit often. This goes to show that most of the respondents visited the Internet frequently and others visited when the need arises. It is worthy of note that the visit was associated with class assignments, research projects, lecture materials and other research materials.

including chatting and checking e-mails

**Table 5. Search Engines Used**

Response	No of Respondents	% of Respondents
Google	74	38.54
Yahoo	82	42.71
Northern Light	-	-
Lycos	-	-
Alta vista	-	-
Hot bat	-	-
Teoma	-	-
MSN	-	-
Mama	20	10.42
Dog Pile	-	-
Askjeaves	16	8.33
Look Smart	-	-
Total	192	100

Of the numerous search engines available, data shows that internet users in Delta State University, Abraka made use of mainly four search engines. They include Yahoo 82 (42.71%), Google 74 (38.54%), Mama 20 (10.42%) and Askjeaves 16 (8.33%) as shown in table 5.

**Table 6. Purpose of Using the Internet**

Response	No of Respondents	% of Respondents
Check / send mail	42	21.8
Visiting Pornographic sites	-	-
Chatting	22	11.5
Information to Supplement Course work	58	30.2
Visits to Entertainment sites	-	-
To visit Recommended sites	-	-
Browse for Information to complete Assignment	70	36.5
Total	192	100

The data in Table 6 above shows that 42 (21.8%) of the respondents check/send e-mail with the Internet, 22 (11.5%) chat on the net, 58 (30.2%) seek information to supplement their course work while 70 (36.5%) of the respondents seek information to complete assignments.

This suggests that majority of the respondents used the Internet for academic

purposes, which facilitated the teaching/learning process. As a result, 174 (90.6%) of the respondents were satisfied with the services of the Internet in meeting their academic needs while 18 (9.4%) were not satisfied. It is possible that those who were not satisfied did not get exactly what they wanted from the net, or perhaps they did not know how to get information through the use of an appropriate search engine in reaching their desired website of information as a result of lack of appropriate internet skills.

**Table 7. Benefits from the Internet**

Response	No of Respondents	% of Respondents
Yes	128	66.7
No	64	33.3
Total	192	100

Since the majority was satisfied with Internet services as shown in the result, they had benefited from Internet services. Hence, data in Table 7 shows that 128 (66.7%) of the respondents responded in the affirmative while 64 (33.3%) said they had in meeting their academic needs.

The same reason adduced for their not being satisfied with it could also account for this. Nonetheless, all respondents, 192 (100%) were of the opinion that Internet services could be used to improve academic activities and enhance efficiency and productivity in teaching and learning.

Considering the benefits of Internet in facilitating scholarship, the following have been identified as ways one can benefit or facilitate academic/research activities through the Internet,

- i. Provides information that may not be found in the libraries
- ii. Provides useful and adequate information
- iii. Provides the most current and reliable information
- iv. Keeps researchers abreast of recent developments in their fields of endeavour
- v. Provides up-to-date information on students' courses
- vi. Provides information that help students/lecturers in their academic work
- vii. Provides the most relevant information
- viii. Provide recent articles in journals that are elusive
- ix. Facilitates access to any other information needed
- x. Provides supplementary information and reduces the cost of getting such information
- xi. Makes for new discoveries as you surf the net

The importance of the Internet in the teaching/learning process cannot be overemphasised. As a result, Internet facilities should be made available in all Nigerian universities by the management to support academic activities. Faculty and students/researchers are also encouraged to use all available search engines.

and possibly visit all necessary web sites of study or research to acquire the most recent and relevant information to aid their research and thereby making it more of international standards than been locally oriented

The ministry of Education in Nigeria should help fully implement the use of computer in education, thereby keeping students abreast of computer skills. The use of the net from primary through secondary schools and will facilitate its use at the tertiary level. This will inculcate the spirit of scholarship in their minds and will lead to research conscious citizens and hence national development.

### Conclusion

Results indicated that Internet services are very important and have been helpful in the improvement and efficiency of academic activities, leading to high productivity and excellence.

Further findings showed that students and lecturers benefit immensely from the services and resources of the Internet. And through the Internet, coupled with technological advancement in the nation, students and lecturers in Delta State University and Nigerian higher institutions have chances to travel round the world via the internet and collaborate with their colleagues in other countries on joint research ventures in addition to obtaining an up-to-date information or data.

In conclusion, the Internet helps to enhance efficiency and effective services in academic pursuit. Although it is pertinent to state that the Internet has a lot of implications for both the individual user on the one end and the country at large on the other, a whole lot of problems and benefits abound, but the benefits for students and lecturers far outweigh whatever negative side effects or problems there may be.

### References

- Agba, PC (2001) *Electronic reporting heart of the new communication age* Ibadan University press
  - Backer, Henry Jay (1998) Internet use by teachers, available at <http://www.crito.ucl.edu/TLC>, accessed 15th April 2005
  - Watch Tower Bible and Tract Society, (1997) The Internet is it for you? *Awake*, 78, 30
  - Graham, T (1999) *Using the Internet* London Oxford University Press
  - Hornby, ? (1996) *The Internet guide for new users* New York McGraw Hill Inc
  - Ibegwam, A (2002) *Information science and technology for Nigerian library schools in Africa* Ibadan Evi Coleman
  - Internet Society (2002) All about the internet –available at [www.isoc.org](http://www.isoc.org)
  - Lacey, L (1999) Using web-based distance education tools to promote health care research in developing countries *ALN Magazine*, 3, 1
  - Lynch, Daniel C (1993) *Historical evaluation Internet system handbook* New York McGraw Hill inc
  - Okunna, CS (2002) *Information technology and mass communication* Lagos New Generation
  - Preston, Geoff (1998) The classroom of tomorrow *Interactive*, 20, 36-37
  - Russell, B (2000) Learning online will replace the classroom *Independent*, June 16<sup>th</sup>
  - Stair and Raynold (1978) The Internet where is it all going? *Information Week*, 536
- Manuscript received on November 11, 2005



## *Unfulfilled Commitments of Developing Countries to Achieving EFA*

K. GOPAL

UNESCO (2005) *Education for all the quality imperative—EFA global monitoring report 2005* Paris, Pp 430

The report contains headline messages, executive summary and six chapters. It highlights that from among the six goals, i.e. Care and Early Childhood Education, Youth and Adult learning, Gender parity Universal Primary Education and Quality, the progress of Early Childhood Care and Education (ECCE) towards wider access remains slow and youth and adult learning remains difficult to assess. Almost two third of the world's adult illiterates (64%) are women, Universal Primary Education (UPE) cannot be achieved by 2015. Seventy per cent of the adult illiterates are concentrated in India, China, Bangladesh and Pakistan.

The issues discussed in Chapter 1 are as follows. *Understanding education quality* discusses both quantity and quality of universal primary education. The Jomtien Declaration in 1990 and, more particularly, the Dakar Framework for Action in 2000 recognized the quality of education as a prime determinant of whether Education for All is achieved (p. 29). The emphasis has to be on improving all aspects of the quality of education so that everyone can achieve better learning outcomes, especially in literacy, numeracy and essential life skills.

The attempt is to identify unambiguously the important attributes or qualities of education that can best ensure that those goals are actually met. There are two key elements that characterize all approaches. First, cognitive development is identified as a major explicit objective of all education systems and the second is education's role in encouraging learners' creative and emotional development, in supporting objectives of peace, citizenship and security, in promoting equality and in passing global and local cultural values to future generations.

Three principles are broadly shared. They are i) need for more relevance, ii) need for greater equality of access and outcome and iii) need for proper observance of individual rights. Human rights legislation in education is centrally concerned with equality. The primary purpose of this report is to monitor changes in education around the world in the light of the Dakar goals.

Chapter 2 deals with the *Importance of good quality, what research tells us*

Distribution of personal income in the society is strongly related to the amount of education people had and a more educated society may translate into higher rates of innovation, high overall productivity and faster introduction of new technology. A study in the US and the UK (2001) found that in high status jobs, women are penalized for possessing aggressive personalities, whereas men are rewarded. The research reflects that very different school systems have produced either low or high average levels of achievement. Debates within the education community regarding adequate teaching practices are not settled. Sufficient resources are necessary if education of acceptable quality is to be attained and education policies need to address the efficiency of resource use in schools. For improving learning outcomes in schools around the world, the policies of the process, as well as the details of its resource and pedagogy, have become increasingly important.

*Assessing the progress towards the EFA goals* is discussed in Chapter 3. The Education for All Development Index has been calculated for 127 countries of the world, i.e. nearly two-third of the total world's countries, of these, 41 or one third have either achieved the four most quantifiable goals or are close to it. Most of these are from North America, Western, Central and Eastern European regions where compulsory education has been in force for more than a century. The others include some Latin American, Caribbean and Central Asian countries where a long established tradition of widespread participation in basic education existed. Fiji in East Asia and the Pacific, Maldives in South Asia and Seychelles in sub-Saharan Africa also figure in this list. However, no Arab state has yet achieved these goals.

Fifty-one countries have achieved intermediate EDI values. In all most half of such countries (mostly in Latin America), education quality as measured by survival rate to grade 5 lags behind. In these cases many children leave school prematurely partly because of poor quality of education imparted.

Thirty-five countries (27.5%) are very far from achieving the EFA goals. Twenty-five of these are in sub-Saharan Africa. This category also includes three high population countries, namely Bangladesh, India and Pakistan. In these countries, Primary school enrolments are low, gender ratios are highly unequal, illiteracy is widespread and education quality is poor, leading to high dropout rates.

Chapter 4 presents the policies for attaining better quality, it focuses primarily on actors, i.e. the learner, the teacher, the school leader or manager, the specialist and the policy maker. The chapter looks for attainable not the ideal (p. 143). Its focus is on formal schooling. It suggests that the strategies for quality improvement have to be drawn on the strength of learners, on their knowledge, interests and capacities.

In sub-Saharan Africa alone more than 11 million children under 15 have lost at least one parent to HIV/AIDS, the number may rise to 20 million by 2010. There are 150 million children with disabilities, 27 million children and young people are affected by conflicts in ten countries. International Labour Organisation (ILO) estimates that 16% of 5-14-year olds world-wide were engaged in work in 2000 and 7% of 5 to 9-year olds and 10% of 10 to 14-year olds combined work with schooling in 2002. Naturally, schooling and learning are adversely affected in such cases.

It is reported that, bribes in teacher recruitment and promotion tend to lower the quality of teachers, and illegal payments demanded for school entrance, along with other hidden costs, contribute to low enrolment and high dropout rates

It is recommended that for improving quality the things to be taken care of are understanding diverse needs of the learners, priority to classrooms, support to reforms focusing on teaching and learning outcomes, soothing environment with good learning material, strong professional support systems, development and maintenance of sound, coherent long-term education sector policies and partnership building while avoiding corruption. There is a vast scope for improvement. The technical knowledge exists, however, the political will and the resources are badly needed.

Chapter 5 talks about *Meeting our international commitments*. Sub-Saharan Africa, East Asia and the Pacific and the Arab States account for three quarters of the total bilateral aid committed to education, with 30%, 27% and 18% respectively. Sub-Saharan Africa receives the highest share of aid from eleven donors. East Asia and the Pacific is the main recipient from only three donors, but since two of them, Japan and Germany are the first and the third biggest donors to education, the region is second in its overall share of aid. The Arab States' region, which also includes North Africa, is the main education aid target for two major donors. France and the United States of America. Spain focuses primarily on Latin America and the United Kingdom allocates almost half of its education aid to South and West Asia. The patterns tend to reflect historical associations and current geo-political interests and do not necessarily imply a clear international understanding of where the greatest need lies.

India decided to curtail its acceptance of aid from some bilateral donors, judging the transaction costs to be greater than the benefits (p. 201). The Joint Evaluation suggests that partnerships work best when characterized by great openness, honesty and respect on the part of donors and governments alike, despite difference in power and influence.

The Fast-track Initiative (FTI) was conceived initially as a direct response to the commitment made in Dakar that no countries seriously committed to EFA will be thwarted in their achievement of this goal by a lack of resources (UNESCO, 2000, p. 213).

The E-9 Initiative was revitalized in 2003, ten years after its launch. The nine countries (Bangladesh, Brazil, China, Egypt, India, Indonesia, Mexico, Nigeria and Pakistan) account for over 71% of the world's adult illiterates and more than half of its out-of-school children. Of course, some progress has been made through international efforts but much needs to be done. Galvanizing the political will and commitment in all nations, remains the most pressing need.

Chapter 6 deals with the theme—*Towards EFA the quality imperative* is the concluding chapter of the Report. Massive educational deprivation continues to be concentrated in sub-Saharan Africa, some of the Arab States and South and West Asia. Progress towards EFA goals is as follows:

Goal 1—Children Care and Education has been slow and took place mainly in countries with already significant levels of enrolment.

Goal 2—The expansion of schooling is translating into a slow reduction of the number of out-of-school children in the primary school age group

Goal 3—Investments and participation in life skills are low and provision is highly diverse

Goal 4—Eighteen percent of the world's adult population (nearly 800 million adults) were illiterate as of 2002 and 70% of these lived in just nine countries, lead by India (33%), China (11%), Bangladesh (7%) and Pakistan (6%) Both India and China registered significant progress over 1990s

Goal 5—Regarding gender, almost two third of the world's adult illiterates are women The disparities are more extreme in secondary and higher education

Goal 6—The countries that are farthest from achieving quantitative goals are also farthest from achieving qualitative goals For quality improvement, seven action points are suggested 1 Reforms to teacher training and school management, 2 Investment in teachers, more attention to recruitment practices by emphasizing talent and motivation with formal educational attainment, 3 Quality and availability of learning material, 4 Help to those who work in and with schools to find their own solutions to improving quality, 5 General literacy and gender sensitive policies and broad based gender reforms to help improve quality of education, 6 Providing for special needs like emergency aids, disability and HIV/AIDS and 7 Access to knowledge/information for qualitative improvement

Creating consciousness around quality education is both a first step and also the political commitment Although external assistance can help in achieving appropriate resource levels and managing school system, it cannot make up for the absence of a societal pledge for improvement

The report provides a detailed profile of what the ground level realities are about education at the global level, the attempts made to provide resources for Education for All and the bottlenecks in its achievement It specifically argues that mere educational proliferation would not do Quality is most imperative It is the spread of Quality education that is needed for betterment of humankind The report deserves to be seriously read by teachers, researchers, planners and particularly the politicians involved in planning and implementation of policies in education Invariably, in the educationally and even otherwise poor countries, the greatest hurdle in peoples' education is the vested interest of the politicians in keeping the people ignorant, as ignorance of the masses is bliss for the unprincipled political class In countries like India the ideological conflicts, uncouth political bargaining, misinformation campaigns, etc have played havoc with the social life Now with the poor quality education, the hazards may be aggravated

Uneducated societies in particular and the human kind in general need a good quality education at all levels—primary, secondary and tertiary Only then will the human society become *human*

(Continued from page 105)

contribution to world GDP. He has also quoted the words of our President Abdul Kalam Azad as, "A developed India by 2020, or even earlier, is not a dream. It need not even be a mere vision in the minds of many Indians. It is mission we can all take up." By 2020 we can also become the largest talent pool. This dream will not materialize if we do not ensure education for all children, not only in respect of the cognitive competencies but also in higher mental faculties and in many other attributes at the school level as well as the quality education in terms of skill development at higher level with the co-operative efforts of the government as well as other societal members. India has already joined hands with World Trade Organization (WTO) by promoting privatisation and commercialization. Chundhale (2004) opines, "Globalization invites us to think globally and act locally. It is desirable that this formula is reversed in its order so that we can, first, think locally and then act globally."

### References

- Chauhan, C P S (2002) Higher education in India: challenges of global trends. *University News*, 40, 17, April 29-May 5
- Chatterjee, Subimal Kumar (2003) Aspects of qualitative changes in Indian education: a general approach. *University News*, 43, 17, April 25-May 01
- Chundhale, S V (2004) Impact of privatisation on education in India: some stray thoughts. *University News*, 42, 7, Feb 16-22
- Gupta, S P (2003) *Three decades of Haryana—a descriptive study*. Chandigarh: Ess Pee Publication
- Joseph, Thomas (2004) Privatization and commercialization: the new paradigm in higher education. *University News*, 42, 7, Feb 16-22
- Sharma, A P (2005) Privatizing professional education: with reference to India and the United States. *University News*, 43, 48, Nov 28-Dec 04
- Singh, L C (2003) Commercialisation in teacher education. *University News*, 41, 8, Feb 28-Mar 02
- Sharma, Mridula (1996) Privatization of higher education in India—some lessons from USA. *Journal of higher Education*, 19, 3
- Singh, Raminder (2005) Privatisation of higher education in the era of globalization. *University News*, 43, 34, Aug 22-28
- Menon, Nalini (2005, November 16) Face to face: the Scottish calling card. *Hindustan Times*, Horizons, p 3
- Narayanan S V & Bhavani, Mohan (2005) Are teaching institutions learning? *University News*, 43, 34, Aug 22-28
- UNESCO (1998) Higher education in the twenty first century: vision and mission. [www.unesco.org](http://www.unesco.org)
- UNESCO (2002) Higher Education in a globalized society. [www.unesco.org](http://www.unesco.org)
- World Bank (1994) Higher education: the lessons of experience. Washington: The World Bank
- World Bank (2000) Higher education in developing countries: peril and promise. [www.worldbank.org](http://www.worldbank.org)
- World Bank (2002) Constructing knowledge societies: new challenges for tertiary education. [www.worldbank.org](http://www.worldbank.org)

Manuscript received on December 7, 2005,

Revised manuscript received on March 17, 2006

(Continued from the facing page)

V Two copies of the manuscript should be sent for editorial review

VI The title of the article and headings should be typed in the Title mode, 1 e capital and small letters (upper/lower cases), with major words beginning with capitals Do not type in all capitals Simply put, do not format the paper Indicate the headings by writing—Heading 1 (first order), 2 (second order) and 3 (third order) and so on

VII Type each table and draw each figure on a separate page Refer to each of them in numerical order in the text as Table 1, etc Prepare tables without vertical lines The caption of figure should be under it and not above as done for Table

VIII From the year 2005, we would follow the APA style *in toto* Arrange References in the alphabetical order For complete information refer to the MS Office Bibliography ( wps) section Examples are reproduced below for reference Notes should be sparingly used and should be marked in the text They should be numbered and inserted as footnotes for the whole article

#### Examples

A book with one author—Zambroski, R (1959) *Sarah Akhtar a biography* New York Five Lakes Publishing

A book with two authors—Abbar, A & K Hightower (2000) *Photographic essays of the end of century* Atlanta Lakes & Sons

A book with an editor—Chor, A (Ed ) (1991) *Writing clearly bullets, white space and common sense* New York Scootney Publishing

A translation of a book—Ben-Sachar, I (1939) *Nunummy nibh* (J Tippet and C Polard, trans ) Boston Jean-Paul Deloria

An anonymous book—*The Chicago manual of style fourteenth edition* (1993) Chicago The University of Chicago Press

A later edition of a book—Cooper, S (1988) *Computer graphics* (new revised edition) Seattle Litware, Inc

A work in more than one volume—Greenberg, R (1961) *Myth in children's literature* (Vols 1-2) Boston Ramona Publishing

A signed article in a journal—Con, A (1984) The effect of pesticides on air quality *Consolidated Messenger*, 20, 44-60

A signed article in a monthly magazine—Shelly, D B (1994) Hardware innovations *Awesome Computers*, January 1995, pp. 14-17

A signed article in a daily newspaper—Mughal, S (1994, December 27) Speculation and development *Island hopper news*, Section D, p 1

***If information is missing in the reference, (?) will be inserted in the published paper.***

IX. No correspondence regarding acknowledgement/acceptance/rejection/publication will be entertained through any means—mail, e-mail, fax, etc. unless adequate postal stamps (in the case of Indian authors) and international postal coupons (in the case of foreign authors) are enclosed along with the paper. If the contributor does not receive any communication from us within six months, the contribution should be considered as rejected.

X. A total of five offprints will be supplied to the authors (two to the foreign authors) free of charge If the issue and off prints are not received within 15 days (a month or more in the case of foreign authors) after the release of the Journal, then an inquiry may be made to the Secretary (not to the Editor-In-Chief), SERD, 46, Hannagar, P O Race Course, Vadodara-390007 In the case of loss, these will be supplied to the author only if the extra copies are available

## **PERSPECTIVES IN EDUCATION**

### **Information for Contributors**

I Manuscripts for publication that have not been published elsewhere, all correspondence regarding papers and books for review should be submitted to the **Editor-in-Chief, Perspectives in Education, 76, Kshitij, Pritam Society No. 1, BHARUCH-392001, Gujarat, India** Phone/Fax (91-02642) 229536 [Fax operative only IST 9 00 A M to 1 00 PM & 5 00 PM to 9 00 PM International users should drop "0" from 02642], E-mail [prafulchandra@sancharnet.in](mailto:prafulchandra@sancharnet.in) and [pnjpdave@yahoo.com](mailto:pnjpdave@yahoo.com)

II It is the editorial policy of the Journal to encourage discussions in an interdisciplinary perspective on educational problems and policies, especially based on experiences in the Third World

III Material to be considered for publication in the Journal should belong largely to one of the following categories of papers and articles on education

- (A) Issues and Trends
  - (a) Essays—theoretical or empirical studies
  - (b) View points
  - (c) Review articles
- (B) Research
  - Reports of research studies
  - (A + B—Not to exceed 3000 words)
- (C) Comments and Criticisms
  - Critiques of articles published in the Journal and rejoinders by the authors
  - (Not to exceed 2000 words)
- (D) Communications
  - Brief notes on educational policies, problems and practices in Third World countries
  - (Not to exceed 2000 words)
- (E) Reviews
  - Brief critical reviews of books and articles
  - (Not to exceed 2000 words)

IV Manuscripts should be typed double spaced (including quotations, foot-notes and references) on one side of heavy white 22 x 29 cms standard paper with ample margins. It should include on a separate page an abstract of 100 to 150 words and a short biographical resume of the author (and all coauthors, if any) giving names, office/home addresses along with e-mail addresses, positions, degrees, institutions and interests. If the papers are sent through e-mail, they should be in the Text Format without any formatting of style, in size 10 with Auto leading, preferably in Times New Roman type. Do not insert tables and figures in the text. **Do not send floppy.** See also VII and XI below

*(Continued on the facing page)*

## Empowering Women Farmers in China

*Beautiful and productive courtyard* is the story of Qiaozhen, a poor woman who lives with her family in a small village in rural China. After attending literacy classes at night school where she also learns about farming techniques, she is able to convince her husband that diversifying crops in their courtyard would make it more productive. Over time, they start growing a wide variety of vegetables—enough to feed their family and to sell in the local market—and significantly increase their income. Qiaozhen's success motivates other women in the village to follow her example.

She seems so real, yet Qiaozhen is a fictional character! Her story is part of series of booklets that cover various topics, from health and agriculture to women's rights. The booklets are locally produced learning material for "Multi-Channel Literacy for Women Farmers," a UNESCO-led functional literacy programme in Yunnan, Xinjiang and Guizhou, three of the most impoverished provinces in western China.

Life is not easy for women farmers in some rural areas in China. They live in regions where literacy rates combined with a harsh geographic environment result in poor health conditions, scarcity of clean drinking water and limited access to electricity and information. "Life is one long cycle of cooking, cleaning, washing and farm work," says Namtip Aksornkool of UNESCO Paris, "Women have no time to rest, no time to complain."

The Multi-Channel Literacy programme is designed to help rural middle-aged women with minimal education. Through captivating drawings and easy to read text, booklets like *Health of mother and baby* and *Scientific Breeding brings benefit* provide Chinese women farmers with effective learning materials that teach reading skills and enhance rural productivity at the same time.

Local artists and authors produce the texts and drawings for the learning materials, thus making the booklets relevant to the lives of the learners. Heroines like Qiaozhen, who improve their lives through non-formal education, serve as models for the new readers.

The model works on the assumption that literacy materials alone do not guarantee an improvement in women's productivity, but that education for development must reinforce women's self esteem at the same time. These programmes promote the role of women as good wives and mothers, productive workers and active members of society.

Real life examples of how the project has changed women farmers are numerous. For example, Ding Huping is a 43-year-old farmer from Dalong, a remote village in Yunnan province, who could not read or write for the first 40 years of her life. In 2003, she decided to join her village's multi-channel literacy class. Before long, Ding was literate and skilled in planting flowers. She now plants rice, roses and lilies, and this crop diversification has allowed her to obtain a significant annual income.

—Excerpted from *'Learning world'—Education Today*, October 2005-January 2006, No 15, UNESCO, Paris

[Reading this report aroused nostalgic memories in Editor-In-Chief's mind. During 1980-90, he headed a team who planned and developed a similar Unicef-assisted innovative, non-formal project named CAPE (Comprehensive Access to Primary Education) at NCERT. Under the project, the teacher educators' teams in all states under the supervision of SCERT's developed similar relevance-based, self-learning materials on a variety of need-based, life-rated themes fondly christened as *Learning Episodes* in all major languages. These were widely used in non-formal primary and adult education centres in the country. I wonder what happened to that enormous locally produced material! —Editor-In-Chief]